SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY ANAHEIM
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MECHANICAL

Valid To: September 30, 2026 Certificate Number: 214.53

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

Test Description/Capabilities:	**Test Method(s)** [1]**:**
Adhesion Tape Test	IPC-A-600; IPC-6012; IPC-6013; IPC-TM-650 (Methods 2.4.1, 2.4.1.1, and 2.4.28.1); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Ash Content	UL 746A (Section 44)
Ball Pressure	IEC-60695-10-2; UL 746A
Bow and Twist	IPC-A-600; IPC-6012; IPC-6013; IPC-TM-650 (Method 2.4.22); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Bond Strength	IPC-6012; IPC-6018; IPC-TM-650 (Methods 2.4.20 and 2.4.21); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Capacity (Reusable Bags)	ANA-0024-002
Chemical Resistance	IPC-4202; IPC-TM-650 (Methods 2.3.2 and 2.3.4); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]

Test Description/Capabilities:	**Test Method(s) [1]:**
Coating Thickness	ASTM D1005; MIL-I-46058
Copper Purity	ASTM E53; IPC-6012; IPC-6013; IPC-TM-650 (Method 2.3.15)
Curing Time	FED-STD-141 (Method 4061.3); MIL-I-46058; ANA-0005-001
Density and Specific Gravity	ASTM D792; UL 746A
Dimensional Stability	IPC-4101; IPC-TM-650 (Method 2.4.39)
DSC – Differential Scanning Calorimetry	IPC-4101; IPC-TM-650 (Method 2.4.25); ASTM D3418
Ductility	IPC 6013; IPC TM 650 (Method 2.4.2.1); IPC-TM-650 (Method 2.4.3.1); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]
Durability (Reusable Bags)	ANA-0024-001
Flammability	UL 94 (Sections 7, 8, and 11)
Flexural Strength Range: (0 to 250) kN *	ASTM D790; IPC-4101; IPC-TM-650 (Method 2.4.4.1) *Elevated Flex*; UL 746A
Flexibility and Folding	IPC-6013; IPC-CC-830; IPC-SM-840; IPC-TM-650 (Methods 2.4.3 and 2.4.5.1); MIL-P 50884 [2]; MIL-PRF-50884 [2]; MIL-PRF 31032 [2]; MIL-I-46058; FED-STD-141 (Method 6221)
Glow Wire Ignitability (GWI)	IEC 60695-2-10; IEC 60695-2-11; IEC 60695-2-12; IEC 60695-2-13; UL 746A
Heat Deflection Temperature	ASTM D648; UL 746A
Hot Wire Ignition (HWI)	ASTM D3874; UL 746A

Test Description/Capabilities:	**Test Method(s) [1]:**
Impact (IZOD/Charpy)	ASTM D256; ASTM D6110
Ionic Cleanliness - Conductivity	IPC-A-600; IPC-4202; IPC-6012; IPC-TM-650 (Methods 2.3.25.1 and 2.3.25); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Mass and Thickness (Reusable Bags)	ANA-0024-003; ASTM D6988 (Method A); ASTM D3776 (Option A
Microsection Analysis	ASTM E3; IPC-A-600; IPC-6012; IPC-6013; IPC-TM-650 (Methods 2.1.1.2 and 2.1.1); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Moisture Absorption	ASTM D570; IPC-4101; IPC-4202; IPC-TM-650 (Methods 2.6.2.1 and 2.6.2); UL 746A
Peel Strength	IPC-4101; IPC-4103; IPC-4202; IPC-4204; IPC-6013; IPC-TM-650 (Methods 2.4.8.3 and 2.4.8); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Rework Simulation	IPC-6012; IPC-6013; IPC-TM-650 (Method 2.4.36); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Solderability	IPC-A-600; IPC-4101; IPC-6012; IPC-6013; J-STD-003; MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Tensile Strength of Plastics Range: (0 to 250) kN *	ASTM D638; ASTM D882; UL 746A
Tensile Strength, Elongation of Copper	ASTM E345; IPC-6012; IPC-6013; IPC-TM-650 (Method 2.4.18.1 and 2.4.18); MIL-PRF-31032 [2]

Test Description/Capabilities:	**Test Method(s) [1]:**
Thermal Shock Range: (-70 to 180) °C *	IPC-6012; IPC-6013; IPC-TM-650 (Methods 2.6.7.1, 2.6.7.2, and 2.6.7.3); IPC-CC-830; IPC-SM-840; J-STD-004; MIL-I-46058; MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]; MIL-STD-202 (Method 107) Section 4.2.1 Test Conditions A, B, & F
Thermal Stress Range: (-70 to 343) °C *	IPC-4101; IPC-6012; IPC-6013; IPC-TM-650 (Method 2.6.8E); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
Thermal Stress, Convection Reflow Range: (100 to 300) °C *	IPC-6012; IPC-TM-650 (Method 2.6.27); MIL-PRF-31032 [2]
Temperature and Humidity	IPC-4101; IPC-6012; IPC-6013; IPC-A-600; IPC-TM-650 (Method 2.6.25); IPC-TM-650 (Method 2.6.3); MIL-P-50884 [2]; MIL-PRF-50884 [2]; MIL-PRF-31032 [2]; MIL-PRF-55110 [2]
TMA – Thermal Mechanical Analysis	IPC-4101; IPC-TM-650 (Methods 2.4.24.1 and 2.4.24); MIL-PRF-31032 [2]
Vicat Softening	ASTM D1525; UL 746A
Visual Inspection	IPC-A-600; IPC-A-610; IPC-TM-650 (Methods, 2.1.8, 2.2.1, 2.2.2, and 2.2.5); IPC-SM-840; MIL-I-46058; MIL-P 50884 [2]; MIL-PRF-50884 [2]; MIL-PRF 31032 [2]; MIL-PRF 55110 [2]; ANA-0024-006
Washability (Reusable Bags)	ANA-0024-005

On the following materials/products
Circuit Boards and Circuit Board Components; Electronics; Adhesives; Aircraft Components; Automotive Components; Plastic and Rubber Insulating Materials.

Laboratory performs tests according to IPC-QL-653 "Certification of Facilities that Inspect/Test Printed Boards, Components and Materials."

[1] When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories.*

[2]These methods are Performance Specifications which make reference to test methods identified on the scope of accreditation. The laboratory is not accredited to these Performance Specifications.

*Including Customer Specifications directly related to the test technologies and within the parameters listed above.

Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY ANAHEIM

Anaheim, California

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *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 April 2017*).

Presented this 22nd day of October 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 214.53
Valid to September 30, 2026

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