CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

CMG Sales, Inc.
525 Capital Drive
Lake Zurich, IL 60047
(and satellite location as shown on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 28 May 2027
Certificate Number: AC-1954

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

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

CMG Sales, Inc.
525 Capital Drive
Lake Zurich, IL 60047
Ron Glaser 847-550-1095

CALIBRATION

ISO/IEC 17025 Accreditation Granted: **07 May 2025**

Certificate Number: **AC-1954** Certificate Expiry Date: **28 May 2027**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Conductivity – Measuring Equipment	Up to 16 % IACS (> 16 to 100) % IACS	2.5 % of reading 1.5 % of reading	Certified Electrical Conductivity Standards (Copper, Aluminum, Manganin); ASTM E1004

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Plating Thickness Gauge	Up to 0.001 in	4.1 % of reading	X-Ray Fluorescence with Zn/Fe Reference Standard; Direct Comparison
Plating Thickness Gauge [4]	Up to 0.01 in	3.4 % of reading	Beta Backscatter with Film Reference Standard; Direct Comparison
Plating Thickness Gauge [4]	Up to 0.002 in	5.9 % of reading	Coulometric with Zn/Fe Reference Standard; Direct Comparison

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Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Coating Thickness Gauge [4]	Up to 0.1 in	3.2 % of reading	Magnetic Induction with Film Reference Material; Direct Comparison
Coating Thickness Gauge [4]	Up to 0.01 in	3.6 % of reading	Eddy Current with Film Reference Material; Direct Comparison
Coating Thickness Gauge [4]	Up to 10 mil	4.1 % of reading	Phase-Sensitive Eddy Current Method using Coating Thickness Standard; ISO 21968
Coating Thickness and Alloy Standards	Up to 0.002 in Up to 99.9 % alloy composition	5.5 % of reading 5.5 % of reading	X-Ray Fluorescence; ASTM B568
Coating Thickness Standards [4]	Up to 100 mils	4.5 % of reading	Magnetic Induction/Eddy Current Methods; ASTM B244-09 and ASTM B499-09

Services performed under

CMG Sales, Inc. dba Color Calibration Group

525 Capital Drive

Lake Zurich, IL 60047

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Rotational Viscosity Instruments [4]	Up to 150 000 cP	0.66 % of reading	Viscosity Standards; ASTM E2975
Cone and Plate Viscosity Instruments [4]	Up to 1 000 cP	0.5 % of reading	Viscosity Standards; ASTM D4287-00

Photometry and Radiometry

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Spectrophotometers, Colorimeters [4]	(380 to 750) nm Up to 100 % Reflectance Full-scale Calibration > 70 % Reflectance 0°:45°a 8°:di 8°:de	L*=0.21, a*=0.14, b*=0.20 ΔE*(CIELAB): 0.47	Calibrated White Standard; Direct Comparison
Spectrodensitometer, Reflection Densitometer, Densitometer Measurement Instrument [1,4]	Color Density (D) Up to 4	0.013 D	Calibrated Color Density Standards; Direct Comparison
Light Booth [4] (Color Temperature)	2 856 K	30 K	Master Illuminance Meter; Direct Comparison
Light Meters, Illuminance Meters [1]	(2 800 to 2 900) K Up to 42 000 lux (0.44 to 0.45) x (0.4 to 0.42) y	30 K 2.8 % of reading 0.004 x 0.004 y	Master Illuminance Meter; Direct Comparison
Gloss Gauge [2,4]	Up to 100 GU 20° 60° 85°	 0.65 GU 0.65 GU 0.65 GU	Black Glass Gloss Standard; Direct Comparison
Gloss Standards [2]	Up to 100 GU 20° 60° 85°	 0.65 GU 0.65 GU 0.65 GU	Master Gloss Standards; Direct Comparison
UV Vis, Vis Spectrophotometers [3,4] Wavelength Absorbance Photometric Transmittance	 Up to 1 200 nm Up to 1.2 (1.2 to 2.2) (2.2 to 2.7) Up to 99 % of Transmittance	 0.41 nm 0.003 4 0.006 2 0.013 0.064 % of Transmittance	Certified UV/Vis Standards; Direct Comparison

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Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. D is a representation of Density; x/y = wavelength.
2. GU is a representation of Gloss Unit.
3. According to the SI Units of Measure, Absorbance is a unitless parameter. However, industry and Metrologists tend to use AU (Absorbance Unit) as the unit of measure.
4. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
5. Unless otherwise specified in the far-right column above, the laboratory utilizes internally written calibration procedures in the process of calibrating the parameters listed in this document.
6. The legal entity of this CAB is Aldinger Holdings.

Jason Stine, Vice President

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