



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Coatings Research Group, Inc.

125 Pelret Industrial Parkway
Berea, OH 44017

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the fields of

TESTING and CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

L2182-1

Certificate Number

ANAB Approval

Certificate Valid Through: 10/26/2020
Version No. 003 Issued: 02/13/2019



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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 17025:2005

Coatings Research Group, Inc.

125 Pelret Industrial Parkway
Berea, OH 44017

Richard Scott, Executive Director
440-973-4909

Valid to: **October 26, 2020**

Certificate Number: **L2182-1**

CALIBRATION

Length – Artifacts and Standards 1D

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Paint Film Applicator Bars	(Up to 2) in	0.000 6 in	Calculated Gap Clearance by Internal Method

Photometry and Radiometry – Color and Spectrally-Integrated Measurements of Materials

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Gloss	(0 to 100) Gloss Units	0.9 Gloss Units	Using Gloss Standards with an Internal Calibration Method
Color / Spectrophotometer	(0 to 50) CIE DeltaE	0.776 spectral reflectance	Using Color Standards with an Internal Calibration Method

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%.



TESTING

Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
pH of Aqueous Solutions (2 to 12) pH	ASTM E70	Water Based Solution	pH meter
Cone/Plate Viscosity (ICI) (0 to 5) poise	ASTM D4287	Water / Solventborne Paints	Analog Cone & Plate
Stormer Viscosity (53 to 140) KU	ASTM D562 Method B	Water / Solventborne Paints	Digital KU Viscometer
Volatile and Non-Volatile by Weight	ASTM D2369	Water / Solventborne Materials and Paints	Oven able to reach 110C
Density	ASTM D1475	Water / Solventborne Materials and Paints	Metal Weight per Gallon Cup
Water Vapor Transmission (perms)	ASTM D1653- Method A-Dry Cup; ASTM E96/96M	Water/ Solventborne Paints	Free Films tested via Payne Permeability Cups
Water Vapor Transmission	ISO 7783	Water /Solventborne Paints	Permeability Cups

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Pencil Hardness 6B to 6H	ASTM D 3363	Coated Panel-Dry Film	Lead pencils meeting scale of 6B to 6H
Tape Test Adhesion (0 to 5) B	ASTM D 3359 Method B Method A	Coated Panel-Dry Film	Pressure sensitive tape
Practical Washability (0 to 10) rating	ASTM D 4828	Coated Panel-Dry Film	Washability machine
Chemical & Household Stain Resistance (1 to 5) rating	ASTM D1308 (Section 7.2-Spot Test Covered) MPI 4.4	Coated Panel-Dry Film	Watch glass

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Scrub Resistance	ASTM D2486 - Method A, MPI 4.5, ISO 11998	Coated Panel-Dry Film	Washability machine
Cross Cut	ISO 2409	Coat Panel – Dry Film	Cutting tool, pressure sensitive tape
Sanding Properties	CRGI TM 83	Coated Panel-Dry Film	Sandpaper 120 grit
Impact Resistance (0.5 to 60) %	ASTM D6905 ASTM D2794	Coated Panel-Dry Film	Impact flexibility tester
Enamel Holdout	ASTM D7786	Coated Panel-Dry Film	Gloss meter
Blocking Resistance of Paints (10 to 0) rating	ASTM D4946	Coated Panel-Dry Film	Lab Oven
Mandrel Bend 1/2", 1/4", 1/8"	ASTM D522 Method B MPI 4.7	Coated Panel-Dry Film	Mandrel
Burnish Resistance	ASTM D6736, MPI 7.9	Coated Panel-Dry Film	Washability machine, cheese cloth
Wet Burnish Resistance	CRGI TM 33	Coated Panel-Dry Film	Washability machine
Abrasion Resistance by Falling Sand	ASTM D968	Coated Panel-Dry Film	Abrasion tester, silica sand
Drying, Curing or Film Formation of Coatings at Room Temperature	ASTM D 1640 (Sections 7.2, 7.6, 7.7) MPI 4.1	Water / Solventborne Paints	
Scrape Adhesion	ASTM D2197	Coated Panel- Dry Film	Balance beam scrape adhesion tester
Mar Resistance	ASTM D5178	Coated Panel-Dry Film	Balance beam scrape adhesion tester
Drying, Curing or Film Formation of Coatings at Room Temperature using Recorder	ASTM D5895	Water / Solventborne Paints	Straight line recorder
Low Temperature Coalescence	ASTM D7306	Water / Solventborne Paints	Cold cabinet to 39F
Freeze Thaw Resistance of Coatings	ASTM D2243	Waterborne Paints	Test chamber to -18C, stormer viscosity
Leveling of a Coating - Leneta Bar (0 to10) rating	ASTM D4062	Water / Solventborne Paints	Leveling test blade

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
CRGI Odor Test (0 to 10) rating	CRGI TM 78	Water / Solventborne Paints	Enclosed container
Application and Evaluation of Brush and Roller Applied Paint Films (1 to 10) rating	ASTM D7073 CRGI TM 64 MPI 4.6	Water / Solventborne Paints	Rollers, brushes, spray gun
Sag Resistance of Paints (4 to 24) mils	ASTM D4400	Water / Solventborne Paints	Ant-sag meter
Resistance to Cracking Over caulk	CRGI TM 88	Water/ Solventborne Paints	Pine boards, caulk
Tensile Properties of Organic Coatings	ASTM D5179	Organic Coatings	Tensile Test Machine
Grind	ISO 1524	Water / Solventborne Paints	Grind Gage

Environmental Simulation

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Lid Skinning	CRGI TM 86	Water / Solventborne Paints	Lab oven
Package Stability of Paints	ASTM D 1849	Water/Solventborne Materials and Paints	Lab oven, stormer viscometer
UV Exposure	ASTM D 4587	Coated Panel- Dry Film	Fluorescent UV test chamber
Salt Fog	ASTM B 117	Coated Panel- Dry Film	Fog chamber with salt solution reservoir
Corrosion	ISO 9227	Coated Panel – Dry Film	Salt spray chamber
Corrosion Protection	ISO 12944-6	Coated Panel – Dry Film	Environmental and Conditioning Chambers

Environmental Simulation

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Artificial Weathering	ISO 16474	Coated Panel – Dry Film	UV test chamber
Exterior Exposure	ASTM D 1006	Coated Panel- Dry Film	Exposure racks facing 45S and 90N
Water Resistance using Water Fog	ASTM D 1735	Coated Panel- Dry Film	Fog chamber
Cyclic Prohesion	ASTM D 5894	Coated Panel- Dry Film	Fog chamber with salt solution reservoir
Evaluation of Blistering (0 to 10) rating	ASTM D 714	Coated Panel- Dry Film	ASTM reference standard
Evaluation of Chalking (0 to 10) rating	ASTM D 4214 Method A	Coated Panel- Dry Film	ASTM reference standard
Evaluation of Checking (0 to 10) rating	ASTM D 660	Coated Panel- Dry Film	ASTM reference standard
Evaluation of Cracking (0 to 10) rating	ASTM D 661	Coated Panel- Dry Film	ASTM reference standard
Evaluation of Rusting (0 to 10) rating	ASTM D 610	Coated Panel- Dry Film	ASTM reference standard
Evaluation of Flaking (0 to 10) rating	ASTM D 772	Coated Panel- Dry Film	ASTM reference standard
Evaluation of Creep (0 to 10) rating	ASTM D1654	Coated Panel-Dry Film	ASTM reference standard
Evaluation of Degradation of Coatings – Size Defects and Changes in Appearance	ISO 4628-1, ISO 4628-2, ISO 4628-3, ISO 4628-4, ISO 4628-5, ISO 4628-6	Coated Panel – Dry Film	ISO reference standard
Evaluation of Fungal / Algal Growth or Soil / Dirt Accumulation (0 to 10) rating	ASTM D 3274	Coated Panel- Dry Film	ASTM reference standard
Resistance to Humidity (condensation)	ISO 6270	Coated Panel – Dry Film	Humidity chamber

Environmental Simulation

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Resistance to Liquids – Water Immersion	ISO 2812-2	Coated Panel – Dry Film	Immersion container
Resistance of Masonry Paints to Efflorescence	CRGI TM 89	Water / Solventborne Paints	Salt solution immersion container

Optical & Radiometric

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Color	ASTM D 2244 MPI 4.3	Coated Panel-Dry Film Reflectance	Spectrophotometer CIE Lab, FMCII
Specular Gloss (20, 60, 85) °	ASTM D 523, MPI 7.8, ISO 2813	Coated Panel-Dry Film	Gloss meter
Contrast Ratio (Hiding Power)	ASTM D 2805 (sect 3.2.1.1) MPI 4.2	Coated Panel-Dry Film Hiding Power	Spectrophotometer
Hegman Grind (0 to 8) Hegman (0 to 100) microns	ASTM D1210 MPI 4.1	Pigmented liquid vehicle systems	Steel blade applied to Hegman Tapered Gage
Yellowness Index (Optical)	ASTM E 313	Coated Panel-Dry Film	Spectrophotometer Measured C/2 ° or D65/10 °
Hiding Power	ISO 6504-1	Coated Panel-Dry Film	Contrast ratio measurement

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2182-1.
2. This laboratory offers testing and calibration services to member and approved non-member companies.



Vice President