

#### SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

#### Q-LAB FLORIDA 1005 S.W. 18th Avenue Homestead, FL 33034

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#### MECHANICAL

Valid To: September 30, 2026 Certificate Number: 0859.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following <u>weathering and corrosion tests:</u>

#### <u>Laboratory Accelerated Weathering and Corrosion Exposures:</u>

Using controlled irradiance xenon arc Q-SUN<sup>TM</sup> chambers, fluorescent-ultraviolet condensation QUV<sup>TM</sup> apparatus, Q-FOG<sup>TM</sup> cyclic corrosion testers, laboratory ovens, environmental chambers and controlled temperature baths.

#### Natural Weathering in a Sub-Tropical Exposure Environment:

Through direct and under glass exposures at fixed angles using Q-RACK<sup>TM</sup> standard panel racks, special mounting racks, and black boxes with backed and unbacked mounting or AIM box<sup>TM</sup> automotive interior sealed cabinets with complete climatological data acquisition and reporting.

#### Natural Weathering in a Northern Temperate Exposure Environment (select test methods):

Through direct exposures at fixed angles using Q-RACK<sup>TM</sup> standard panel racks and special mounting racks, with backed and unbacked mounting.

#### **Evaluations:**

Visual and instrumental evaluations to measure degradation effects, including gloss and color, mechanical measurements of physical properties before and after exposure.

#### On the following materials:

Automotive Components, Plastics, Paints, Textiles, Roofing, Sealants, Glass, Photovoltaic, and Solar Heating materials.

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## Florida Subtropical Outdoor Weathering

OUTDOOR WEATHERING AND CORROSION RESISTANCE		
Type of Test <sup>1</sup>	<b>Measured Conditions</b>	<b>Exposure Parameters &amp; Capabilities</b>
Natural Weathering Resistance: <i>Q-RACK Testing</i>	Radiation	Low-cut grass ground cover
	Exposure Angle	Variable Angle Test Fixtures (5°, 25°, 45° & 90° common)
	Air temperature	
	Black and White Panel Temperature	Unbacked, mesh-backed, plywood backed and black box exposure
	Time of Wetness	Direct or under glass
	Wind speed	Benchmark Subtropical Climate (~15-35°C, 53-100% RH)
	Wind direction	(*13-33 C, 33-100/0 KH1)
	Precipitation	
Enhanced Outdoor Corrosion Resistance: Salt-Spray		Salt-spray application
Enhanced Outdoor		High-humidity, biologically active
Weathering Resistance:  Mildew Enhanced		exposure area
Enhanced Outdoor Weathering Resistance: Acid-Etch		Acid-spray application
Enhanced Outdoor Weathering Resistance: Wet Stack		Wet stack exposure

OUTDOOR ACCELERATED WEATHERING RESISTANCE		
Type of Test <sup>1</sup>	<b>Measured Conditions</b>	<b>Exposure Parameters &amp; Capabilities</b>
Glass-Covered Apparatus with	Radiation	Static Test Fixtures at 45° South Angle
Air Circulation:	Exposure Angle	Unbacked, mesh-backed, and plywood
AIM Box Testing		backed exposure
	Black Panel Temperature	Tempered or laminated glass
	_	Temperature-controlled

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## Laboratory Accelerated Weathering, Lightfastness & Corrosion Testing

WEATHER DURABILITY TESTING WITH XENON ARC LAMPS		
Type of Test <sup>1</sup>	Measurement / Test Parameter	Measurement and Testing Range
Weathering Resistance: <i>Q-SUN</i>	Irradiance	0.25-1.30 W/m <sup>2</sup> @ 340 nm 0.45-2.40 W/m <sup>2</sup> @ 420 nm 20-125 W/m <sup>2</sup> @ TUV (300 - 400 nm)
	Optical Filter	Daylight Extended UV
	Chamber Temperature	25-65 °C
	BST/BPT Temperature	35-120 °C
	Moisture	10-95 % RH Water Spray
	Cyclic Capability	Light, Dark Light+Spray, Dark+Spray Front + Back Spray Front + Dual Solution Spray
Colorfastness to Window-Filtered Light: <i>Q-SUN</i>	Irradiance	0.25-0.85 W/m2 @ 340 nm 0.45-2.40 W/m2 @ 420 nm 20-108 W/m2 @ TUV (300 - 400 nm)
2	Optical Filter	Window
	Chamber Temperature	25-65 °C
	BST/BPT Temperature	35-120 °C
	Moisture	10-95 % Relative Humidity
	Cyclic Capability	Light, Dark

WEATHER DURABILITY TESTING WITH FLUORESCENT UV LAMPS		
Type of Test <sup>1</sup>	Measurement /	Measurement and
	Test Parameter	Testing Range
Weathering Resistance:	Lamps	UVA-340, -351, UVB-313, UVC-254
QUV	Irradiance	0.20-2.04 W/m <sup>2</sup> @ 340 nm (UVA-340) 0.20-1.54 W/m <sup>2</sup> @ 340 nm (UVA-351) 0.20-2.04 W/m <sup>2</sup> @ 310 nm (UVB-313) 1.0-13.0 mW/cm <sup>2</sup> @254 nm (UVC-254)
	BST/BPT Temperature	35 - 80 °C
	Moisture	Continuous condensation Water Spray
	Cyclic Capability	Light, Dark Light + Condensation or Water Spray Dark + Condensation or Water Spray

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CORROSION RESISTANCE TESTING		
Type of Test <sup>1</sup>	Measurement /	Measurement and
	Test Parameter	Testing Range
Cyclic Corrosion:	Chamber Temperature	20-70 °C
Q-FOG	Solution	NaCl, other electrolyte solutions
	Solution Application	Fog
		Shower (Spray)
	Cyclic Capability	Fog
		Shower
		RH Control (10-95%)
		Dry

## Weathering and Corrosion Evaluations

Type of Test <sup>1</sup>	Reportable Parameters	<b>Equipment Capabilities/Ranges</b>
Dry Film Thickness	μm (inch mils)	0-500 μm (0-20 mils)
Instrumental Color	Scales	Geometry
	CIELAB, Hunter Lab, YXZ, Yxy, YI, WI, Instrumental Gray Scale Tolerances DE, DE2000, CMC	45/0 8° Sphere Multi-Angle (-15°, 15°, 25°, 45°, 75°, 110°)
Specular Gloss	20°, 60° & 85°	20° 0-2000 GU 60° 0-1000 GU 85° 0-160 GU
Visual Assessment (qualitative)	Blistering Chalking Checking/Cracking Chip Impact Color (visual) Corrosion Dirt Erosion Flaking Mildew Growth Surface Rust Visual Gray Scale	Light Booth Illuminant D65 A CWF Intensity 1080 - 1340 lux North Facing Window



## Physical and Mechanical Testing

Type of Test <sup>1</sup>	Measurement /	Measurement and
Bend	Test Parameter	Testing Range Cylindrical mandrel ranges
Bellu	Cylindrical and Conical	5.5 in wide over diameters of 3/8, 1/2,
		5/8, 3/4 and 1 in
		Conical mandrel ranges
		38 -3.2 mm over 20.3 cm
		(1.5 - 1/8 in. over 8 in)
Chip Impact	Chilled iron grit	Gravel sizes
	Water worn gravel	4-5 mm angular
		9.5-15.9 mm Air pressures
		0-70 psi
		Impact time
		0-33 sec.
		Volume per cycle (max)
Cantast Anala	RODI Water	0-500 g
Contact Angle		20 uL
Crocking	Dry and wet staining	Cycles
D D. Ell. III. 1	••	1-50 cycles
Destructive Dry Film Thickness	mils	Cutting Tips
		1x, 2x, 5x, 10x (mils)
Falling Sand Abrasion	Natural silica sand	Sand particulate
		0.6-1.18 mm
		Volume of reservoir
		2L
Falling Weight Impact	Round and cylindrical	Sizes
		½ and 5/8 in. indenter
		Weights
		4-16 lb. weight
		Max Force
		160 in. lb.
Heat Build-up via Infrared Heat	Predicted solar heat build	250 W Lamp (IR)
Lamp	up	0-100°C Type K Thermocouple
Immersion	Water bath	Ambient - 80°C
Length measurement		Micrometer (0-25 mm.)
		Caliper (0-150 mm.)
		Ruler (0-150 mm)
		Microscope (0.05-5 mm)
Pencil Hardness	Gouge and Scratch	Pencil range
	Hardness	4H - 4B

Type of Test <sup>1</sup>	Measurement / Test Parameter	Measurement and Testing Range
Specimen Weighing <sup>2</sup>	Mass	0.000 - 210.000 g
		0.0 - 1500.0 g
Taber Abraser	Revolution (cycles)	Wheels
		CS10P, 10F, 10, 17
		Weights
		250-1000 gram
Tape Adhesion	Cross-hatch and X-	1-3 mm spacing
	Scribe	Scribe tools
		Single blade or Multi-cutter

<sup>&</sup>lt;sup>1</sup> Using the following test methods in addition to customer-supplied methods directly related to the types of tests and parameters above:

#### OUTDOOR WEATHERING: Q-RACK<sup>TM</sup> TESTING

ASTM G7<sup>3</sup> Atmospheric Environmental Exposure Testing of Nonmetallic Materials

ASTM G24 Conducting Exposures to Daylight Filtered Through Glass

ASTM G50 Outdoor Corrosion Test

ASTM D7376 Outdoor Evaluation of Wet Stack Storage Conditions on Coil-Coated

Metals

Galvanotechnick 1/2006 The Southern Florida Acid Rain Test SAE J576 Plastic Materials for Optical Parts

SAE J1976<sup>3</sup> Outdoor Weathering of Exterior Materials

#### OUTDOOR WEATHERING: AIM™ BOX TESTING

ASTM G201 Conducting Exposures in Outdoor Glass-Covered Exposure Apparatus

with Air-Circulator

GMW 3417 (excluding Natural Weathering Exposure of Interior Trim/Materials

codes F2 and F3)

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ASTM G155 Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic

Materials

ISO 4892-2 Plastics- Methods of Exposure to Laboratory Light Sources; Xenon arc

Sources

#### 

ASTM G154 Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic

Materials

ISO 4892-3 Plastics- Methods of Exposure to Laboratory Light Sources; Fluorescent

UV Lamps

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#### LABORATORY ACCELERATED WEATHERING: Q-FOG™ CORROSION RESISTANCE

TESTING

ASTM B117 Salt Spray (Fog) Testing

ISO 9227 (NSS Only) Corrosion Tests in Artificial Atmosphere - Salt Spray Tests

#### WEATHERING AND CORROSION EVALUATIONS: DRY FILM THICKNESS (DFT)

ASTM D7091 Dry Film Thickness of Ferrous and Non-Ferrous Metals

ISO 2178 Thickness of Coating on Magnetic Substrates
ISO 2360 Thickness of Coating on Non-Magnetic Substrates

#### WEATHERING AND CORROSION EVALUATIONS: INSTRUMENTAL COLOR

ASTM D1003, Method B Haze and Transmittance of Transparent Plastics

ASTM D2244<sup>3</sup> Calculation of Color Differences from Instrumentally Measured Color

Coordinates

ISO 4582 Plastics — Determination of changes in colour and variations in

properties

#### WEATHERING AND CORROSION EVALUATIONS: SPECULAR GLOSS

ASTM D523<sup>3</sup> Test Method for Specular Gloss

ISO 2813 Determination of Specular Gloss of Non-Metallic Paint Films at 20°, 60°,

and  $85^{\circ}$ 

#### WEATHERING AND CORROSION EVALUATIONS: VISUAL ASSESSMENT

AATCC EP1 Gray Scale for Color Change AATCC EP2 Gray Scale for Staining

ASTM D2616 Evaluation of Visual Colors Difference with a Gray Scale

ISO 105-A02 Grey Scale for Assessing Change in Colour

#### PHYSICAL AND MECHANICAL TESTING: BEND

ASTM D522 Method B: Elongation of Attached Organic Coatings with Mandrel Bend

Apparatus

#### PHYSICAL AND MECHANICAL TESTING: CHIP IMPACT

ASTM D3170 Chipping Resistance of Coatings

SAE J400 Test for Chip Resistance of Surface Coatings

#### PHYSICAL AND MECHANICAL TESTING: CONTACT ANGLE

ASTM D7334 Surface Wettability of Coatings, Substrates and Pigments by Advancing

Contact Angle Measurement

#### PHYSICAL AND MECHANICAL TESTING: CROCKING

ISO 20433 Colour Fastness to Crocking

#### PHYSICAL AND MECHANICAL TESTING: DESTRUCTIVE DRY FILM THICKNESS

ASTM D4138 Destructive Dry Film Thickness

(Procedure A)

#### PHYSICAL AND MECHANICAL TESTING: FALLING SAND ABRASION

ASTM D968 (Method A) Abrasion Resistance of Organic Coatings by Falling Abrasive

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#### PHYSICAL AND MECHANICAL TESTING: FALLING WEIGHT IMPACT

ASTM D2794 Resistance of Organic Coatings to the effects of Rapid Deformation

(Impact)

#### PHYSICAL AND MECHANICAL TESTING: HEAT BUILD-UP VIA INFRARED HEAT

**LAMP** 

ASTM D4803 Predicting Heat Buildup in PVC Building Products

#### PHYSICAL AND MECHANICAL TESTING: IMMERSION

FLTM BI 104-01 Water Immersion Test for Painted Panels and Parts

#### PHYSICAL AND MECHANICAL TESTING: PENCIL HARDNESS

ASTM D3363 Film Hardness by Pencil Test

#### PHYSICAL AND MECHANICAL TESTING: TABER ABRASER

ASTM D4060 Abrasion Resistance of Organic Coatings by Taber Abraser

#### PHYSICAL AND MECHANICAL TESTING: TAPE ADHESION

ASTM D3359 Measuring Adhesion by Tape Test ISO 2409 Paints and Varnishes – Cross-Cut Test

#### Additional Standards

#### **OUTDOOR WEATHERING: Q-RACK TESTING**

AATCC TM 1111 <sup>3</sup>	Weather Resistance of Textiles
ASTM C1589	Outdoor Weathering Sealants
ASTM D1006 <sup>3</sup>	Exterior Exposure of Paints on Wood
ASTM D1014	Exterior Exposure of Paints on Steel
ASTM D1435 <sup>3</sup>	Outdoor Weathering of Plastics
ASTM D3424	Lightfastness and Weatherability of Printed Matter
(Method 1 & 2)	
ASTM D3456 <sup>3</sup>	Exterior Exposure Test of Paint Films to Microbiological Attack
ASTM D3679 <sup>3</sup>	Standard Spec for Rigid Poly (Vinyl Chloride) (PVC) Siding
ASTM D4141	Conducting Accelerated Outdoor Exposure Tests of Coatings
ASTM D4303	Lightfastness of Colorants used in Artists Materials
(Method A & C)	
ASTM D4726 <sup>3</sup>	Standard Spec for Rigid Poly (Vinyl Chloride) (PVC) Exterior Profile
	Extrusions used for Assembled Windows and Doors
ASTM D5272 <sup>3</sup>	Outdoor Exposure Testing of Photodegradable Plastics
ASTM D6675	Salt Accelerated Outdoor Corrosion Test
ASTM D6864 <sup>3</sup>	Plastic Siding Weathering
ASTM D7251 <sup>3</sup>	Color and Appearance Retention of Variegated Color Plastic Siding
ASTM D7793 <sup>3</sup>	Standard Specification for Insulated Siding
ASTM D7856	Color and Appearance Retention of Solid and Variegated Color Plastic
	Siding Products using CIELab Color Space
EN 13523-19	Coil Coated Metals - Atmosphere Exposure Testing
FLTM BI 160-01	Florida and Arizona Outdoor Exposure Test
GMW 14873;	Outdoor Weathering of Automotive Exterior Materials
GM 9163P (withdrawn	

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2006)

**OUTDOOR WEATHERING: Q-RACK TESTING (CONT)** 

ISO 105 B01 Textiles – Tests for Colorfastness to Light; Daylight

ISO 877-1, -2 Plastics – Methods of Exposure to Weathering, Direct, Under Glass

ISO 2810 Paints and Varnishes: Natural Weathering LP463-KB19-01 Outdoor Exposure of Trim Materials

LP463-PB34-01 Florida Exposure Testing of Painted Surfaces

LABORATORY ACCELERATED WEATHERING: TESTING WITH XENON ARC LAMPS

AATCC TM16 Colorfastness to Light

AATCC TM169 Weather Resistance of Textiles: Xenon Lamp Exposure

ASTM C734 Low Temperature Flexibility of Latex Sealants After Artificial

Weathering

ASTM C1257 Accelerated Weathering of Solvent-Release-Type Sealants

(UV & Xenon Arc)

ASTM C1442 Accelerated Weathering of Sealants

(UV & Xenon Arc)

ASTM C1501 Color Stability of Building Sealants

(UV & Xenon Arc)

ASTM D2565 Xenon Arc Exposure of Plastics Intended for Outdoor Applications
ASTM D3424 Lightfastness and Weatherability of Printed Matter (Withdrawn 2020)

(Method 3 & 4)

ASTM D4303 Lightfastness of Colorants used in Artists' Materials

(Method C & D)

ASTM D4355 Deterioration of Geotextiles by Exposure to Xenon Arc

ASTM D4459 Xenon Arc Exposure of Plastics Intended for Indoor Applications
ASTM D4798 Practice for Accelerated Weathering of Bituminous Materials (Xenon

Arc)

ASTM D5071 Exposure of Photodegradable Plastics in a Xenon Arc Apparatus
ASTM D6551 Accelerated Weathering of Pressure Sensitive Tapes by Xenon Arc

**Exposure Apparatus** 

ASTM D6695 Xenon Arc Exposure of Paint and Related Coatings

ASTM D7356 Accelerated Acid Etch Weathering of Automotive Clearcoats Using a

Xenon Arc Exposure Device

ASTM D7869 Xenon Arc Exposure Test with Enhanced Light and Water Exposure for

**Transportation Coatings** 

ASTM D904 Exposure of Adhesives to Artificial Light

ASTM F2366 Lightfastness Indoor Inks Xenon with Window Filters

FLTM BO 116-01 Resistance to Interior Weathering

GB/T 1865 Paints and varnishes - Artificial weathering and exposure to artificial

radiation - Exposure to filtered Xenon Arc radiation

GB/T 8427 Textiles-Tests for colour fastness-Colour fastness to artifical light: Xenon

Arc fading lamp test

GB/T 16422.1 Part 1: General Guidance

(UV & Xenon Arc)

GB/T 16422.2 Part 2: Xenon Arc sources ISO 16474-1 Part 1 - General Guidance

(UV & Xenon Arc)

ISO 16474-2 Part 2 – Xenon Arc Lamps
ISO 11341 (withdrawn Xenon Arc Testing for Paints

2013)

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LABORATORY ACCELERATED WEATHERING: TESTING WITH XENON ARC LAMPS

(CONT)

JIS D 0205 (UV, Xenon Weatherability for Automotive Parts (UV, Xenon Only)

Only)

MIL-STD-810 Procedure Solar Radiation (Sunshine)

II, Actinic Effects

SAE J2412 Accelerated Exposure Automotive Interior Trim Components using a

Controlled Irradiance Xenon Arc Apparatus

SAE J2527 Performance Based Standard for Accelerated Exposure of Automotive

Exterior Materials using a Controlled Irradiance Xenon Arc Apparatus

VW PV 1306 Exposure test for Determining the Tackiness of Polypropylene Parts

VW PV 3929 Non-Metallic Materials, Weathering in Dry, Hot Climate VW PV 3930 Non-Metallic Materials, Weathering in Moist, Hot Climate

LABORATORY ACCELERATED WEATHERING: TESTING WITH FLUORESCENT UV

**LAMPS** 

AATCC TM186 Weather Resistance: UV Light and Moisture Exposure

ASTM D3424 Lightfastness and Weatherability of Printed Matter (Withdrawn 2020)

(Method 8)

ASTM D4329 Fluorescent UV Exposure of Plastics

ASTM D4585 Testing Water Resistance of Coatings Using Controlled Condensation
ASTM D4587 Fluorescent UV Condensation Exposure of Paint and Related Coatings

ASTM D4674 Accelerated Testing Color Stability of Indoor Plastics

(Method III & IV)

ASTM D4799 Practice for Accelerated Weathering of Bituminous Materials

(UV & Condensation)

ASTM D5208 Fluorescent Ultraviolet (UV) Exposure of Photodegradable Plastics

ASTM D5894 Cyclic Salt Fog/UV Exposure of Painted Metal

(UV & Condensation)

ASTM F1945 Lightfastness Indoor Inks Fluorescent Lighting

(excluding 11.2)

ASTM G53-96 Operating Light- and Water-Exposure Apparatus (Fluorescent UV-

(Withdrawn 2000) Condensation Type) for Exposure of Nonmetallic Materials ASTM G224 Operating UVC Lamp Apparatus for Exposure of Materials

EN 927-6 Exposure of Wood Coatings to Artificial Weathering using Fluorescent

UV and Water

EN 13523-10 Coil Coated Metals – Resistance to Fluorescent UV and Water

Condensation

FLTM BI 104-02 Condensing Water Vapor Test

(Condensation)

GB/T 16422.3 Part 3: Fluorescent UV lamps ISO 11507 (withdrawn Fluorescent UV Test on Paints

2013)

ISO 16474-3 Part 3 – Fluorescent UV Lamps

SAE J2020 Accelerated Exposure of Automotive Exterior Materials using a

Fluorescent UV and Condensation Apparatus

LABORATORY ACCELERATED WEATHERING: CORROSION RESISTANCE TESTING

ASTM D1735 Water Resistance of Coatings using Water Fog Apparatus

ASTM D2247 Water Resistance to 100% relative Humidity

ASTM D2803 Filiform Corrosion

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# <u>LABORATORY ACCELERATED WEATHERING: CORROSION RESISTANCE TESTING</u> (CONT)

ASTM G85 (except A4) Modified Salt Spray (Fog) Testing

EN 13523-8 Coil Coated Metals - Resistance to Salt Spray (Fog)
FLTM BI 103-01 Salt Spray Resistance Test for Painted Panels and Parts

Ford TM-00.00-L-467 Laboratory Accelerated Cyclic Corrosion Test

GB/T 1771 Paints and varnishes – Determination of resistance to neutral salt spray

(fog)

GB/T 10125 Corrosion tests in artificial atmospheres-salt spray tests

GMW 3286 Salt Spray Test

GM 9125P (withdrawn Laboratory Accelerated Exposure of Automotive Materials (UV)

2013)

GM 9505P, Cycle O Automotive Environmental Cycling

(inactive 2010);

GMW14124, Cycle O

GMW 14729 High Humidity Test

GMW 14872 Cyclic Corrosion Laboratory Test

GMW 15282 Corrosion/Underutting Scribe Creepback

GMW 15288; GM 9511P Scab Corrosion Creepback of Paint Systems on Metal Substrates

(withdrawn 2007)

SAE J1959 Underbody Vehicle Corrosion Protection

SAE J2334 Cosmetic Corrosion Lab Test

VDA 233-102 Cyclic Corrosion of Materials and Components in Automotive

Construction

VW PV 1210 Corrosion Test Body and Attachments

#### WEATHERING AND CORROSION EVALUATIONS

AATCC EP6 Instrumental Color Measurement

AATCC EP9 Visual Assessment of Color Difference of Textiles

ASTM D610 Evaluating Degree of Rusting on Painted Steel Surfaces

ASTM D660 Evaluating Degree of Checking of Exterior Paints

ASTM D661 Evaluating Degree of Cracking of Exterior Paints

ASTM D662 Evaluating Degree of Erosion of Exterior Paints

ASTM D714 Evaluating Degree of Blistering of Paints

ASTM D772 Evaluating Degree of Flaking (Scaling) of Exterior Paints

ASTM D1654 Evaluation of Painted or Coated Specimens to Corrosive Environments

ASTM D1729 Visual Evaluation of Color Difference of Opaque Materials

ASTM D1925-70 Test Method for Yellowness Index of Plastics

(withdrawn 1995)

ASTM D3274 Evaluating Degree of Surface Disfigurement of Paint Films by Microbial

Growth or Dirt Accumulation

ASTM D3719-00

(withdrawn 2009) Quantifying Dirt Collection on Coated Exterior Panels
ASTM D4214 Evaluating the Degree of Chalking of Exterior Paint Films

ASTM E313 Calculating Yellowness and Whiteness Indices from Instrumentally

Measured Color Coordinates

ASTM E1164<sup>3</sup> Spectrometric Data for Object Color Evaluation

ASTM E1331 <sup>3</sup> Color by Spectrophotometry Using Hemispherical Geometry

ASTM E1348 Transmittance and Color by Spectrophotometry Using Hemispherical

Geometry

ASTM E1349 Color by Spectrophotometry Using Bidirectional (45/0) Geometry

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#### WEATHERING AND CORROSION EVALUATIONS (CONT)

EN 13523 Part 2	Specular Gloss
EN 13523 Part 3	Colour Difference Instrumental Comparison
EN 13523 Part 4	Pencil Hardness
EN 13523 Part 21	Evaluation of Outdoor Exposed Panels
ISO 3668	Paints And Varnishes Visual Comparison Of Colour Of Paints
ISO 4628 Part 1	Part 1 - General Introduction and Designation System
ISO 4628 Part 2	Part 2 - Assessment of Degree of Blistering
ISO 4628 Part 3	Part 3 - Assessment of Degree of Rusting
ISO 4628 Part 4	Part 4 - Assessment of Degree of Cracking
ISO 4628 Part 5	Part 5 - Assessment of Degree of Flaking
ISO 4628 Part 6	Part 6 - Assessment of Degree of Chalking by Tape Method
ISO 4628 Part 7	Part 7 - Assessment of Degree of Chalking by Velvet Method
ISO 4628 Part 8	Part 8 – Assessment of Degree of Delamination and Corrosion Around a
	Scribe or Other Artificial Defect
ISO 4628 Part 10	Part 10 - Assessment of Degree of Filiform Corrosion
SAE J1545	Instrumental Color Difference Measurement for Exterior Finishes,
	Textiles and Trim
SAE J1767	Instrumental Color of Automotive Trim Material

#### PHYSICAL AND MECHANICAL TESTING

ASTM D4226	Impact Resistance of Rigid	<b>PVC Building Products</b>
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FLTM BI 157-04 High Performance Stone Chip Test

FLTM BI 157-06 High Performance Stone Chip Resistance Test New Rating Scale

GMW 14829; GM 9071P Tape Adhesion Test for Paint Finishes

(withdrawn 2005)

GMW 14700 Chip Resistance of Coatings

Volvo STD 1024,7132 Chip Resistance

#### FOR GENERAL TESTING (MULTIPLE DISCIPLINES) 4

TOTA GENERAL TESTIN	o (Heart East)
AAMA 303	Specification for Rigid Poly (Vinyl Chloride) (PVC) Exterior Profiles
AAMA 305	Specification for Fiber Reinforced Thermoset Profiles
AAMA 307	Specification for Laminates Intended for Use on AAMA Certified Profile
AAMA 308	Voluntary Spec. for Cellular Polyvinyl Chloride (PVC) Exterior Profiles
AAMA 611	Specification for Anodized Architectural Aluminum
AAMA 612	Test Procedures for Combined Coatings of Anodic Oxide and
	Transparent Organic Coatings on Architectural Aluminum
AAMA 613, AAMA 614,	Test Procedures For Organic Coatings on Plastic Profiles
AAMA 615	
AAMA 623, AAMA 624,	Test Procedures For Organic Coatings on Fiber Reinforced Thermoset
AAMA 625	Profiles
AAMA 701/702	Specification for Pile Weatherstripping & Replaceable Fenestration
	Weatherseals
AAMA 2603, AAMA	Test Procedures For Pigmented Organic Coatings on Aluminum
2604, AAMA 2605	Extrusions and Panels
ASTM G147	Conditioning and Handling of Nonmetallic Materials for Natural and
	Artificial Weathering Tests
ASTM G151	Exposing Nonmetallic Materials in Accelerated Test Devices that use
	Laboratory Light Sources
ISO 4892-1 (UV, Xenon	Plastics- Methods of Exposure to Laboratory Light Sources; General
Only)	Guidance

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<sup>&</sup>lt;sup>1</sup> This laboratory meets the A2LA P112 Flexible Scope Policy

<sup>&</sup>lt;sup>2</sup> This test is not equivalent to that of a calibration.

<sup>&</sup>lt;sup>3</sup> Northern weathering exposures done at the Q-Lab facility located at 800 Canterbury Road, Westlake, OH 44145

<sup>&</sup>lt;sup>4</sup> The laboratory is accredited for the test methods listed above. The accredited test methods are used in determining compliance with any material specifications included on this Scope; however, the inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications. Inclusion of these material specifications on this Scope also does not confer accreditation for every method embedded within the specification.



# **Accredited Laboratory**

A2LA has accredited

# **Q-LAB FLORIDA**

Homestead, FL

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 22<sup>nd</sup> day of October 2024.

Mr. Trace McInturff, Vice President, Accreditation Services

For the Accreditation Council Certificate Number 0859.01

Valid to September 30, 2026