



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ATLAS WEATHERING SERVICES GROUP

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MECHANICAL

Valid until: May 31, 2018

Certificate Number: 0717.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's EPA ENERGY STAR[®] Accreditation Program¹ requirements), accreditation is granted to this laboratory to perform the following tests:

I. Weathering and Optical Tests

Weathering in a Desert Natural Environment: Direct and under glass exposures at fixed or variable angle using standard panel racks, special mounting racks, black boxes, spray racks, special fixtures designed to meet specific client needs, complete climatological data acquisition and reporting.

Outdoor Accelerated Weathering: Using solar tracking racks with and without wetting; and EMMAQUA[®] Fresnel-reflector solar concentrator devices with and without wetting.

Evaluations: Visual inspection for all property changes detectable to the unaided eye or under magnification. Instrumental determination of chalking, chromaticity coordinates, color change, gloss, hardness, haze, heat aging, thickness, UV-VIS-NIR measurements, weight, whiteness index, yellowness index and others.

On the following products or materials:

Adhesives & sealants, agricultural & forest products, automotive products (including whole cars), aviation & aerospace materials, building materials (most applications & substrates), ceramics, coatings, composites, dyes, films & packaging, gaskets, seals & packings, geosynthetics, glass & glass products, inks, leather, paper, paperboard & pulp, photodegradables, plastics & polymers, rubber & rubber products, textiles, windows & doors, wood & wood products.

ENERGY STAR[®] Product Specification for Roof Products (excluding reflectance and emissivity).

Using the following test methods and specifications:

Test Method:

Test Technology:

AAMA (American Architectural Manufacturers Association)

AAMA 623 Section 7.11	Voluntary Specification, Performance Requirements and Test Procedures for Organic Coatings on Fiber Reinforced Thermoset Profiles
AAMA 624	Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Fiber Reinforced Thermoset Profiles
AAMA 625	Voluntary Specification, Performance Requirements and Test Procedures for Superior Performance Organic Coatings on Fiber Reinforced Thermoset Profiles
AAMA 633	Voluntary Specification, Performance Requirements and Test Procedures for Exterior Stain Finishes on Wood, Cellulosic Composites and Fiber Reinforced Thermoset Window and Door Components, 7.10
AAMA 643	Voluntary Specification, Performance Requirements and Test Procedures for Solar Reflective Finishes, 7.3.1

AATCC (American Association of Textile Chemists & Colorists)

AATCC – 001	Gray Scale for Color Change
AATCC – 183	Transmittance or Blocking of Erythemally Weighted UV Radiation through Fabrics

ASTM (American Society for Testing and Materials)

ASTM D523	Specular Gloss
ASTM D610	Evaluating Degree of Rusting on Painted Steel Surfaces
ASTM D660	Evaluating Degree Checking of Exterior Paints
ASTM D661	Evaluating Degree Cracking of Exterior Paints
ASTM D662	Evaluating Degree Erosion of Exterior Paints
ASTM D714	Evaluating Degree Blistering of Paints
ASTM D772	Evaluating Degree Flaking (Scaling) of Exterior Paints
ASTM D1003	Haze and Luminous Transmittance of Transparent Plastics
ASTM D1006	Conducting Exterior Exposure Tests of Paints on Wood
ASTM D1014	Conducting Exterior Exposure Tests of Paints on Steel

Test Method:

Test Technology:

ASTM (American Society for Testing and Materials, continued)

ASTM D1435	Outdoor Weathering of Plastics
ASTM D1729	Visual Evaluation of Color Difference of Opaque Materials
ASTM D2244	Calculation of Color Difference from Instrumentally Measured Color Coordinates
ASTM D2616	Evaluation of Visual Color Difference of Opaque Materials
ASTM D3274	Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation
ASTM D3359	Measuring Adhesion by Tape Test
ASTM D3679	Standard Specifications for Rigid Poly (Vinyl Chloride) (PVC) Siding (Sections 6.10, 6.11, and 6.13)
ASTM D4141	Conducting Accelerated Outdoor Exposure Tests of Coatings (Proc. A, C)
ASTM D4214	Evaluating Degree of Chalking of Exterior Paint Films
ASTM D4364	Performing Accelerated Outdoor Weathering of Plastics Using Concentrated Sunlight
ASTM D4726	Standard Specifications for Rigid Poly (Vinyl Chloride) (PVC) Exterior Profile Extrusions Used for Assembled Windows and Doors (Section 7.1)
ASTM D5105	Performing Accelerated Outdoor Weathering of Pressure-Sensitive Tapes Using Concentrated Natural Sunlight
ASTM D5722	Performing Accelerated Outdoor Weathering of Factory Coated Embossed Hardboard Using Concentrated Natural Sunlight and a Soak-Freeze-Thaw Procedure
ASTM D6864	Standard Specification for Color and Appearance Retention of Solid Colored Siding Products
ASTM D6901	Standard Specification for Artists' Color Pencils
ASTM D7091	Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non Ferrous Metals
ASTM D7251	Standard Specification for Color and Appearance Retention of Variegated Color Plastic Siding Products
ASTM D7254	Standard Specification for Polypropylene (PP) Siding
ASTM D7793	Standard Specification for Insulated Vinyl Siding

Test Method:

Test Technology:

ASTM (American Society for Testing and Materials, continued)

ASTM D7856	Standard Specification for Color and Appearance Retention of Solid and Variegated Color Plastic Siding Products using CIELab Color Space
ASTM D7990	Standard Test Method for Using Reflectance Spectra to Produce an Index of Temperature Rise in Polymeric Siding
ASTM E313	Indexes of Whiteness and Yellowness of Near-White Opaque Materials
ASTM E408	Test Methods for Total Normal Emittance of Surfaces Using Inspection -Meter Techniques
ASTM E424 Method A	Standard Test Methods for Solar Energy Transmittance and Reflectance (Terrestrial) of Sheet Materials
ASTM E903	Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres
ASTM E1331	Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry
ASTM E1348	Transmittance and Color by Spectrophotometry Using Hemispherical Geometry
ASTM E1349	Reflectance Factor by Spectrophotometry Using Bi-directional Geometry
ASTM E1799	Standard Practice for Visual Inspections of Photovoltaic Modules
ASTM F2657	Standard Test Method for Outdoor Weathering Exposure of Cross Linked Polyethylene (PEX) Tubing
ASTM G7	Atmospheric Environmental Exposure Testing of Nonmetallic Materials ¹
ASTM G24	Conducting Natural Light Exposures Under Glass
ASTM G90	Performing Accelerated Outdoor Weathering of Nonmetallic Materials Using Concentrated Natural Sunlight
ASTM G147	Conditioning and Handling of Nonmetallic Materials for Natural and Artificial Weathering Tests ¹
ASTM G179	Standard Specification for Metal Black Panel and White Panel
ASTM G201	Conducting Exposures in Outdoor Glass-Covered Exposure Apparatus with Air Circulation

CLP (Chrysler Laboratory Test Methods)

LP 463 KB 19 01	Outdoor Exposure Trim Materials
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Test Method:

Test Technology:

CRRC (Cool Roof Rating Council)

ANSI/CRRC-S100 (Section S.2.6)	ANSI/CRRC S100 Standard Test Methods for Determining Radiative Properties of Materials
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DIN (Deutsches Institut für Normung)

DIN EN ISO 11664-4 DIN 53209	Colorimetry – Part 4: CIE 1976 L*a*b* Colour Space Designation of Degree of Blistering of Paint Coatings
DIN 67530	Refractometers as a Means for Gloss Assessment of Plane Surfaces of Paint Coatings and Plastics
DIN 75220	Aging of Automotive Components in Solar Simulation Units*

EN (European Standard)

EN13523-14	Chalking (Helmen Method)
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FLTM (Ford Laboratory Test Methods)

BI-160-01	Arizona Outdoor Exposure
BI 110-01	Measurement of the Gloss of Paint Panels

GM (General Motors Engineering Standards - Procedures)

GMW 3417	Natural Weathering Exposure Tests for Interior Trims/Materials
GM 9163P ² ; GMW 14873	Outdoor Weathering of Automotive Exterior Materials
GM 9327P ²	Exterior Weatherability of Integrally Colored Plastics
GM 9538P	Weathering Exposure Tests Interior Trim
GMW 14444	Section 3.3.3 – Material Related Interior Part Performance
GMW 14829; GM9071P ²	Tape Adhesion Test for Paint Finishes

Test Method:

Test Technology:

IEC (International Electrotechnical Commission)

IEC 60904	Photovoltaic Devices: Part 1: Measurement of Photovoltaic Current-Voltage Characteristics. Part 3: Measurement Principles for Terrestrial Photovoltaic (PV) Solar Devices with Reference Spectral Irradiance Data. Part 10: Methods of Linearity Measurement
IEC 61215 (2005– 04), Sections 10.1-10.13, 10.15, & 10.18	Crystalline Silicon Terrestrial PV Modules, Design Qualification & Type Approval
IEC 61646 (2008-05), Sections 10.1 – 10.13, 10.15, 10.18, & 10.19	Thin Film Terrestrial PV Modules, Design Qualification & Type Approval
IEC 61730-2 (2004) Sections 10.1, 10.4, 10.6, 10.7, & 10.9	Photovoltaic (PV) Module Safety Qualification. Part 1: Requirements for Construction Part 2: Requirements for Testing
IEC 61853-1	Photovoltaic (PV) Modules Performance Testing And Energy Rating. Part 1: Irradiance and Temperature Performance Measurements.
IEC 62108 (2007-12) Sections 10.1 – 10.8, 10.10 – 10.11, & 10.14 – 10.17	Concentrator Photovoltaic (CPV) Modules and Assemblies – Design Qualification and Type Approval

ISO (International Standards Organization)

ISO 105 A02	Color Fastness to Artificial Light
ISO 105 B01	Color Fastness to Light; Daylight
ISO 105 B03	Color Fastness to Weathering: Outdoor Exposure
ISO 877-1	Plastics-Methods of Exposure to Direct Weathering, to Weathering Using Glass-Filtered Daylight, and to Intensified Weathering by Daylight Using Fresnel Reflector
ISO 877-2	Direct weathering and exposure behind window glass
ISO 877-3	Intensified weathering using concentrated solar radiation
ISO 2810	Paint and Varnishes - Notes for Guidance on the Conduct of Natural Weathering Tests
ISO 2813	Measurement of Specular Gloss of Non-Metallic Paint Films

Test Method:

Test Technology:

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| ISO 4628 | Paints and Varnishes-Evaluation of Degradation of Paint Coatings-Degradation of Intensity, Quality and Size of Common Types of Defect |
| ISO 16871 | Outdoor Exposure of Plastic Pipes |

MIL (Military Standard)

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| MIL 810G | Solar Radiation (Sunshine) – Steady State for Prolonged Actinic Effects, Method 505.5, Procedure II |
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SAE (Society of Automotive Engineers)

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| SAE J575
(Section 4.8) | Test Methods and Equipment for Lighting Devices for use on Vehicles less than 2032 mm in Overall Height |
| SAE J576 | Plastic Materials for Use in Optical Parts Such as Lenses and Reflectors of Motor Vehicle Lighting Devices |
| SAE J1545 | Instrumental Color Difference Measurement for Exterior Finishes, Textiles, and Colored Trim (A) (calculation for test results using ASTM E1331) |
| SAE J1767 | Instrumental Color Difference Measurement of Colorfastness of Automotive Interior Trim Materials |
| SAE J1961 | Accelerated Exposure of Automotive Exterior Materials Using a Solar Fresnel Reflector Apparatus |
| SAE J1976 | Outdoor Weathering of Exterior Materials |

UL (Underwriters Laboratories)

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| UL 1703 (2008)
Sections: 18, 19, 20,
21, 25, 26, 33, 34,
35, 36, & 39 | Flat Plate Photovoltaic Modules and Panels |
| UL 8703
Sections
5, 6, 7, 8, & 9 | Concentrator Photovoltaic Modules and Assemblies |
| ULC/ORD – C1703
Sections:
5.1, 5.2, 5.3, 5.4, 5.8,
5.9, 5.10, 5.11, 5.15,
5.16, 5.17, 5.18, &
5.21 | Flat Plate Photovoltaic Modules and Panels |

Test Method:

Test Technology:

VSI (Vinyl Siding Institute)

VSI Outdoor Weathering Practice Protocols for the Conduct of Outdoor Weathering Studies of Plastic Siding and Related Products

Temperature Measurements:

(-10 to 200) °C Thermocouple Temperature Measurements

¹ A2LA provides accreditation to the U.S. EPA's [Conditions and Criteria for Recognition of Laboratories for the ENERGY STAR Program](#) by verifying an organization's compliance to A2LA document [R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program](#) and to the related test methods listed above.

Accreditation by A2LA does not infer Recognition by the EPA for ENERGY STAR testing. Please verify this organization's recognition status by using the EPA's searchable database, located at http://www.energystar.gov/index.cfm?fuseaction=recognized_bodies_list.show_RCB_search_form

²This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

GM 9163P (Superseded 09/2011)
GM 9327P (Superseded 04/2012)
GM 9071P (Superseded 09/2012)



Accredited Laboratory

A2LA has accredited

ATLAS WEATHERING SERVICES GROUP

Phoenix, AZ

for technical competence in the field of

Mechanical 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 laboratory also meets the requirements of any additional program requirements in the Mechanical field. 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 23rd day of May 2016.



A handwritten signature in blue ink, appearing to read "J. C. Burt".

Senior Director of Quality and Communications
For the Accreditation Council
Certificate Number 0717.01
Valid to May 31, 2018

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