



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ATLAS WEATHERING SERVICES GROUP

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MECHANICAL

Valid To: May 31, 2012

Certificate Number: 0717.05

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

Laboratory Accelerated Weathering: Using single and twin enclosed carbon arc, open flame (sunshine) carbon arc, and controlled irradiance xenon arc Weather-Ometer<sup>®</sup> and Fade-Ometer<sup>®</sup>, fluorescent-ultraviolet condensation apparatus, HPUV indoor actinic exposure system, laboratory oven, controlled temperature bath.

Evaluations: Visual inspection for all property changes detectable to the unaided eye or under magnification. Instrumental determination of loss of adhesion, chalking, instrumental color, color change, gloss, whiteness index, and yellowness index.

On the following products or materials: adhesives & sealants, agricultural & forest products, automotive products (including whole cars), aviation & aerospace materials, building materials (most applications & substrates), coatings, composites, geosynthetics, dyes, glass, inks, leather, packaging, photodegradables, plastics, rubber, textiles, windows & doors, wood & wood products.

PARAMETER BASED SCOPE<sup>1</sup>

Type of Test	Measurement/ Test Parameter	Measurement and Testing Range
<p>Light and Weather Fastness Testing with Xenon Lamps –</p> <p>Colorfastness to Light</p> <p>Weather Resistance</p>	<p>Irradiance</p> <p>Filter System Chamber Temperature BST/BPT Temperature Moisture Cycle</p> <p>Irradiance</p> <p>Filter System Chamber Temperature BST/BPT Temperature Moisture Cycle</p>	<p>(0.6 to 3.0) W/m<sup>2</sup> @ 420 nm (40 to 180) W/m<sup>2</sup> @ (300 to 400) nm (250 to 765) W/m<sup>2</sup> @ (300 to 800) nm</p> <p>Behind window glass (30 to 70) °C (40 to 130) °C (10 to 95) % RH Only light, no wetting</p> <p>(0.25 to 1.5) W/m<sup>2</sup> @ 340nm (40 to 180) W/m<sup>2</sup> @ (300 to 400) nm (250 to 765) W/m<sup>2</sup> @ (300 to 800) nm</p> <p>Outdoor (30 to 70) °C (40 to 130)°C (10 to 95) % RH Bright and dark cycle, wetting cycle</p>
<p>Light and Weather Fastness Testing with Fluorescent Lamps –</p> <p>Weather Resistance</p>	<p>Irradiance Filter System BST/BPT Temperature Moisture Cycle</p>	<p>Lamps, as specified According to the lamp type (30 to 90) °C Condensation condition Light and condensation cycle</p>

Type of Test	Measurement/ Test Parameter	Measurement and Testing Range
Light and Weather Fastness Testing with Carbon Arc Lamps –  Weather Resistance	Irradiance Filter System Chamber Temperature BST/BPT Temperature Moisture Cycle	Fixed, depending on the voltage & amperage Pyrex globe / Corex D / Soda lime (30 to 60) °C (50 to 100) °C (10 to 70) % RH Bright and dark cycle, wetting cycles

<sup>1</sup> Please reference the following test methods for the parameter based scope:

REFERENCE STANDARDS APPLICABLE TO THE PARAMETER BASED SCOPE OF ACCREDITATION

AATCC (American Association of Textile Chemists & Colorists)

- AATCC – 016 Colorfastness to Light (except section 23)
- AATCC – 169 Weather Resistance of Textiles: Xenon Lamp Exposure

ASTM (American Society for Testing and Materials)

- ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus
- ASTM D822 Conducting Tests on Paint and Related Coatings and Materials Using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus
- ASTM D904 Exposure of Adhesive Specimens to Artificial (Carbon-Arc Type) and Natural Light
- ASTM D2565 Operating Xenon-Arc Type Light Exposure Apparatus With and Without Water for Exposure of Plastics
- ASTM D2803 Standard Guide for Testing Filaform Corrosion Resistance of Organic Coatings on Metal
- ASTM D3424 Evaluating the Lightfastness and Weatherability of Printed Matter
- ASTM D3815 Accelerated Aging of Pressure Sensitive Tape by Carbon-Arc Exposure Apparatus
- ASTM D4303 Lightfastness of Pigments Used in Artists' Paints (Procedure A, C, and D)
- ASTM D4329 Operating Light- and Water-Exposure Apparatus (Fluorescent UV Condensation Type) for Exposure of Plastics
- ASTM D4355 Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus, except section 9.5)
- ASTM D4459 Operating an Accelerated Lightfastness Xenon-Arc-Type (Watercooled) Light Exposure Apparatus for the Exposure of Plastics for Indoor Applications
- ASTM D4674 Accelerated Testing for Color Stability of Plastics Exposed to Indoor Fluorescent Lighting and Window-Filtered Daylight

*Peter Mlynar*

ASTM (American Society for Testing and Materials), continued

ASTM D4798	Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Xenon-Arc Method)
ASTM D4799	Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Fluorescent UV Condensation Method)
ASTM D5031	Testing Paints, Varnishes, Lacquers, and Related Products Using Enclosed Carbon Arc Light- and Water-Exposure Apparatus
ASTM D5071	Operating Xenon Arc-Type Exposure Apparatus with Water for Exposure of Photodegradable Plastics
ASTM D5894	Cyclic Salt Fog/UV Exposure of Painted Metal(Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet
ASTM D6695	Xenon-Arc Exposures of Paint and Related Coatings
ASTM G85	Modified Salt Spray (Fog) Testing
ASTM G151	Exposing Non-Metallic Materials in Accelerated Test Devices That Use Laboratory Light Sources
ASTM G152	Operating Open Flame Carbon-Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	Operating Enclosed Carbon-Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G154	Operating Fluorescent Light Apparatus of UV Exposure of Nonmetallic Materials
ASTM G155	Operating Xenon-Arc Light Apparatus for Exposure of Nonmetallic Materials

CLP (Chrysler Laboratory Procedures)

LP 463 PB 16 01	Weather-O-Meter Test
LP 463 PB 17 01	Fade-O-Meter Test

FLTM (Ford Laboratory Test Methods)

BI (Plastics, Physical Test Methods):

BI 101-01	Resistance to Artificial Weathering
BI 103-01	Salt Spray Resistance Test for Painted Panels and Parts
BI 110-01	Measurement of the Gloss of Paint Panels
BI 116-01	Exposure of Interior Trim Materials in a Controlled Irradiance Water-Cooled Xenon-Arc Apparatus

GM (General Motors Engineering Standards - Procedures)

GM 4298P	Salt Spray Test
GM 9125P	Procedures for Laboratory Accelerated Exposure of Automotive Materials
GM 9505P	Automotive Environmental Cycles
GM 9540P	Accelerated Corrosion Test
GMW 3414	Artificial Weathering of Automotive Interior Trim Materials

GM (General Motors Engineering Standards – Procedures, continued)

GMW 14162	Colorfastness to Artificial Weathering
GMW 14444	Section 3.3.2, Material Related Interior Part Performance
GMW 14872	Cyclic Corrosion Laboratory Test

ISO (International Standards Organization)

ISO 105 B02	Color Fastness to Artificial
ISO 105 B04	Color Fastness to Artificial Weathering
ISO 105 B05	Detection and Assessment of Photochromism
ISO 105 B06	Color Fastness to Artificial Light at High Temperatures
ISO 4892	Exposure to Laboratory Light Sources (Options 2, 3, 4)
ISO 6270	Procedure for exposing test specimens in condensation-water atmospheres
ISO 9227	Corrosion Tests in Artificial Atmospheres – Salt Spray Tests

JIS (Japanese International Standards)

JIS B7753	Light and Water Exposure Apparatus (Open-Flame Sunshine Carbon Arc Type)
JIS D0205	Weatherability for Automotive Parts (except section 7.5)

Loreal

QAC-MC-151/K	Accelerated Aging Under Light
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MIL (Military Standard)

MIL 810G	Solar Radiation (Sunshine) -Steady State for Prolonged Actinic Effects. Method 505.4, Procedure II
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SAE (Society of Automotive Engineers)

SAE J1885-05	Accelerated Exposure of Automotive Interior Trim Components
SAE J1960-04	Accelerated Exposure of Automotive Exterior Materials Using a Controlled Irradiance Water Cooled Xenon-Arc Apparatus
SAE J2020	Accelerated Exposure of Automotive Exterior Materials Using a Fluorescent UV and Condensation Apparatus
SAE J2334	Laboratory Cyclic Corrosion Test
SAE J2412	Accelerated Exposure of Automotive Interior Trim Components (Xenon-Arc)
SAE J2527	Accelerated Exposure of Automotive Exterior Materials (Xenon-Arc)

REFERENCE STANDARDS APPLICABLE TO EVALUATIONS

AATCC (American Association of Textile Chemists & Colorists)

AATCC – 001      Gray Scale for Color Change

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 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 D3359      Measuring Adhesion by Tape Test  
ASTM D4214      Evaluating Degree of Chalking of Exterior Paint Films  
ASTM E313      Indexes of Whiteness and Yellowness of Near-White Opaque Materials  
ASTM E1331      Reflectance Factor and Color by Spectrophotometry Using Hemispherical Geometry  
ASTM E1348      Color by Spectrophotometry Using Hemispherical Geometry  
ASTM G147      Conditioning and Handling of Nonmetallic Materials for Natural and Artificial Weathering Tests

DIN (Deutsches Institut für Normung)

DIN 6174      Colorimetric Evaluation of Color Difference of Surface Colors According to the CIE Lab Formula  
  
DIN 53209      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

GM (General Motors Engineering Standards - Procedures)

GM 9071P      Tape Adhesion Test for Paint Finishes

ISO (International Standards Organization)

ISO 105 A02      Color Fastness to Artificial Light

ISO 2813      Measurement of Specular Gloss of Non-Metallic Paint Films

ISO 4628      Paints and Varnishes-Evaluation of Degradation of Paint Coatings-Degradation of Intensity, Quality and Size of Common Types of Defect

SAE (Society of Automotive Engineers)

SAE J1545      Instrumental Color Difference Measurement for Exterior Finishes, Textiles, and Colored Trim (A)

SAE J1767      Instrumental Color Difference Measurement of Colorfastness of Automotive Interior Trim Materials

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The American Association for Laboratory Accreditation

World Class Accreditation

# *Accredited Laboratory*

A2LA has accredited

## **ATLAS WEATHERING SERVICES GROUP**

*Chicago, IL*

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 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 26<sup>th</sup> day of April 2010.



A handwritten signature in black ink, appearing to read "Peter Meyer", written over a horizontal line.

President & CEO  
For the Accreditation Council  
Certificate Number 717.05  
Valid to May 31, 2012

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