



ADVANCED COATINGS LAB

The Advanced Coatings Lab is located at the National Center for Aviation Training and specializes in research, development and testing of aerospace coatings.

CAPABILITIES

- New coatings technology research and development
 - Customized formulation of interior and exterior high performance coatings
- Materials/process evaluation and optimization
 - Coatings application process improvement
 - Product testing to military, OEM, and industry specifications
- Workforce Development

EQUIPMENT & TESTING

- **Test Chambers**
 - Accelerated Weathering Units
 - Xenon, QUV
 - Salt Fog Cabinet
 - Cyclic Corrosion Chamber
 - SO₂ Capability
 - Temperature/Humidity Chamber
 - Exposure Testing, Filiform Corrosion
 - Ovens
 - Low Temperature Freezer
 - Thermal Cyclic Chamber
 - Solar Simulation Testing
 - Solar Exposure Testing

Analytical Testing

- UV/VIS/IR Spectrophotometer (with 150mm Integrated Sphere)
- Portable Emmisometer
- Portable Reflectometer
- Thermal Imaging System (IR Camera)
- Micro Combustion Calorimeter (Developed by FAA)
- Contact Angle
- Electrochemical Impedance

Physical Testing

- Impact testers
 - Standard and G.E.
- Abrasion tester
- Mandrels for flex testing
 - standard and conical

- Adhesion Test Kits
- Water Immersion Bath
- Dry Film Thickness
 - Magnetic Induction, Eddy Current, Ultrasonic
- Hardness
 - Pencil

Color and Appearance

- Spectrophotometer
 - Desktop, Handheld
- Multi-Angle Spectrophotometer
 - Effect Pigment Evaluation
- Gloss Meter
- Orange Peel/DOI Measurement Unit
- Light Booth
- Microscope
- Liquid Color Standards

Rheology

- Rheometer
- Viscosity Cups
- Brookfield Viscometer
- Stormer Viscometer

Sample Preparation

- Media Mill
- Air Mixers
- Paint Shakers
- Sieve Shaker
- Engraver
- Abrasive Blast Systems

Application

- Robotic Paint Application System
- Fluidics 3K Mix System
- Conveyor System
- Automated Panel Sprayer
- Gravity Feed Spray Guns
 - HVLP, Compliant
- Pressure Feed Spray Guns
 - HVLP, Compliant
- Pressure Pots
- Electrostatic Spray Gun
 - Air Assisted Airless
- Powder
 - Manual Application System

- Automated Vinyl Cutter
- Fresh Air Breathing System
- Virtual Paint Training Units
- UV Cure Lamp
- IR Cure Lamp

Surface Preparation

- Central Dust Collection System
- Sanders
- Buffers/Polishers
- EMMA
 - Easily Manipulated Mechanical Arm Units
 - Temple Allen

REPRESENTATIVE PROJECTS

- Materials for EMI Protection of
- Composite Airframe Structures
 - Development of Conductive
- Coatings System (USAF ARL)
- Solar Heat Reflective
- Coatings Testing
- Runway De-Icing Compound
- Corrosion Resistance

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