

The Advanced Coatings Lab is located at the National Center for Aviation Training and specializes in research, development and testing of aerospace coatings. In addition to research and development services, the Advanced Coatings Lab offers curriculum in Aerospace Coatings & Paint Technology through Wichita Area Technical College (WATC).



ADVANCED COATINGS



WICHITA STATE UNIVERSITY

NATIONAL INSTITUTE FOR AVIATION RESEARCH

→ 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

→ LAB 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
- Abrasion tester
- Mandrels for flex testing
- Adhesion test kits
- Water immersion bath
- Dry film thickness
- Eddy current, ultrasonic
- Pencil hardness

Color and Appearance

- Spectrophotometer
- Multi-Angle Spectrophotometer
- 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

Surface Preparation

- Central dust collection system
- Sanders
- Buffers/Polishers
- Easily manipulated mechanical arm units
- Temple Allen

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

→ 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

→ CONTACT

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