

Leonard L. Phelps | Associate Principal



EDUCATION

- University of Illinois
 - Bachelor of Science, Biology, 1979
 - Bachelor of Arts, Chemistry, 1979
- DePaul University
 - Master of Science, Chemistry, 1991

PRACTICE AREAS

- Durability Studies
- Failure Investigation
- Coating Condition Assessment
- Construction Documents and Specifications
- Chemical Analysis
- Coating Analysis
- Laboratory Testing

REGISTRATIONS

- AMPP/SSPC Certified Protective Coatings Specialist

PROFESSIONAL AFFILIATIONS

- American Coatings Association (ACA)
- Association for Materials Protection and Performance (AMPP)
- Chicago Society of Coatings Technology (CSCT)

CONTACT

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EXPERIENCE

Leonard Phelps often serves as a lead chemist on project teams that resolve construction-related materials problems. Mr. Phelps's experience includes various coating projects, including failure analysis, condition assessment, laboratory and field testing, corrosion protection, specification development, remedial coating recommendations, coating characterization, performance evaluation, and long-term durability assessment.

Mr. Phelps consults with clients regarding material acceptability and selection, surface preparation, coating application, specification explication, resolution of disputes, and litigation. He has been a principal investigator in determining the cause of the failure of coatings applied to substrates of various commercial, governmental, and industrial structures.

Mr. Phelps has been a key member of project teams responsible for determining the cause of failure of other construction materials, such as adhesives, sealants, and roofing.

REPRESENTATIVE PROJECTS

Durability Studies

- Anheuser Busch - St. Louis, MO: Long-term performance study of roofing membranes
- Carlsbad Caverns - NM: Comparative study of coating candidate selections for elevator shaft structural steel
- Federal Highway Administration: Long-term performance study of rebar coatings
- Westmoreland County Courthouse Dome - Greensburg, PA: Long-term performance study of coatings on cast aluminum dome

Failure Investigation

- Amazon Delivery Station - West Chicago, IL: Coating delamination from ceiling deck
- Denver International Airport - CO: Blistered lining of precast concrete cooling tower
- Eiffel Tower II - Las Vegas, NV: Cracking of intumescent coating system
- Honolulu International Airport, Overseas Terminal Chiller Plant - HI: Poor coating adhesion and peeling from galvanized piping and supports
- Pharmaceutical Facility - CO: Coating and drywall joint compound failure

- Research Animal Laboratory - ME: Cracks at wallboard joints and ceiling deck peeled coating investigations
- Zapata Academy - Chicago, IL: Coating cracking/delamination of interior concrete masonry unit

Coating Condition Assessment

- Aloha Stadium - Honolulu, HI: Coated weathering steel
- Carlsbad Caverns - NM: Extant coating of 800-foot-deep elevator shaft structural steel in seepage environment
- Chicago Skyway - IL: Coated structural steel
- Bridge of the Americas - Panama City, Panama: Coated structural steel
- Petco Park - San Diego, CA: Coated structural steel
- Safeco Field - Seattle, WA: Coated structural steel
- Westin Moana Surfrider Hotel - Honolulu, HI: Coated stucco surfaces

Construction Documents and Specifications

- Aloha Stadium - Honolulu, HI: Design and specifications for coating salt-contaminated structural weathering steel
- Boulder Recreation Center - CO: Coating specification for galvanized steel pool features
- Carlsbad Caverns - NM: coating specification for elevator shaft structural steel
- Denver International Airport - CO: Precast concrete cooling tower coating repair
- Reeds Island Bridge - Hilo, HI: Specifications for coating new galvanized steel and existing structural steel in damp, wet environment
- Sports Authority Field - Denver, CO: Specifications for coating weathering steel seating bowl stairs

AMPP TECHNICAL COMMITTEES

- SC 02 - External Coatings, Atmospheric
- SC 05 - Surface Preparation
- SC 12 - Concrete Infrastructure
- SC 23 - Coating System Application, Maintenance, and Inspection
- SC 24 - Environmental Health and Safety/Regulatory