

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

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

PROFESSIONAL AFFILIATIONS

- American Coatings Association
- Society for Protection Coatings

CONTACT

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EXPERIENCE

Leonard Phelps joined WJE as a chemist in 1984. He often serves as lead chemist on various project teams whose task is the resolution of construction-related materials problems. Mr. Phelps' work experience includes a variety of coating projects, such as failure analysis, condition assessment, corrosion protection, specification development, remedial coating recommendations, coating characterization, performance evaluation, and long-term durability assessment. Mr. Phelps routinely consults with clients regarding material acceptability and selection, surface preparation, coating application, specification explication, resolution of disputes, and litigation. He has been principal investigator in determining the cause of the failure of coatings applied to a variety of 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. His experience over the past forty years includes inspections in a variety of settings and industries.

REPRESENTATIVE PROJECTS

Durability Studies

- Anheuser Busch - St. Louis, MO: Long-term performance study of roofing membranes.
- 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

- Aloha Stadium - Honolulu, HI: Pinpoint corrosion of coated galvanized steel
- Eiffel Tower II - Las Vegas, NV: Cracking of coating system
- German Embassy - Washington, D.C.: Blistered intumescent coating on structural steel

Coating Condition Assessment

- Aloha Stadium - Honolulu, HI: Coated weathering steel
- San Diego Padres Petco Park - San Diego, CA: Coated structural steel

- Seattle Mariners Safeco Field, Seattle WA: Coated structural steel
- Bridge of the Americas - Panama City, Panama: Coated structural steel
- Chicago Skyway - Chicago, IL: Coated structural steel
- Sheraton Moana Surfrider Hotel - Honolulu, HI: Coated cementitious surfaces

Construction Documents and Specifications

- Aloha Stadium - Honolulu, HI: Specifications for coating salt-contaminated structural weathering steel
- Boulder Recreation Center - Boulder, CO: Coating specification for galvanized steel pool features
- Sports Authority Field - Denver, CO: Specifications for coating weathering steel seating bowl stairs
- Reeds Island Bridge - Hilo, HI: Specifications for coating new galvanized steel and existing structural steel in damp, wet environment
- Capehart Elevated Water Tank - Whidbey Island, WA: Coating specification interior/exterior steel water tank
- One Market Renovation - San Francisco, CA: Peer review of coating specifications for exterior aluminum and structural steel
- Carlsbad Caverns - Carlsbad, NM: Specifications for coating 800-foot-deep elevator shaft structural support steel in damp, seepage environment

TECHNICAL COMMITTEES

- SSPC C.1 Coatings Interest Group
 - C.1.1 Zinc Rich Coatings
 - C.1.12 Painting Galvanized Steel
 - C.1.13 Coatings for Wastewater Facilities
 - C1.3D Polyurethane Coatings
 - C1.7 Powder Coatings
 - C.1.8 Fluoropolymer Coatings
- SSPC C.2 Surface Preparation
 - C.2.12 Determining Compliance with Soluble Salt Levels
 - C.2.3 Power Tool Cleaning
- SSPC C.7 Protection of Concrete
 - C7.3 Standards for Surface Preparation of Concrete
- SSPC C.8 Commercial Coatings
 - C.8.1 Commercial Cleaning and Painting