



Paul Kofoed Associates, Inc.

Paul D. Kofoed

Principal Consultant - Chemist



EDUCATION

Northern Illinois University

Bachelor of Science, Chemistry, 1980

DePaul University

M.S. Coursework, Chemistry, 1982

PRACTICE AREAS

Coatings Consultation

Coatings Inspection

Joint Sealant Consultation

Chemical Analysis

Laboratory Testing

Field Testing

Concrete Deterioration

Durability Studies

Construction Specifications

Litigation Support

Materials Investigation

Failure Investigation

EXPERIENCE

Employed as a chemist since 1980, and is an expert in materials failure analyses and remediation. Mr. Kofoed has over 35 years experience in detailed microscopical, spectroscopical, chemical, and physical studies of construction materials. He has extensive experience in performing field and laboratory evaluations of construction materials failures, and in specifying and supervising large scale repairs. This work also includes documentation, and consultation for litigation. His duties involve chemical and infrared spectrophotometric analyses of organic and polymer systems with extensive experience in the analysis of cementitious additives and admixtures, surface coatings, carpet adhesives, plastics, and elastomeric sealants. He has also investigated numerous ceramic, quarry tile, and resilient flooring finishes.

Mr. Kofoed has special expertise related to the chemistry of paint and coating systems. He routinely assesses performance characteristics and long-term durability of these materials when applied to various substrates, including concrete slabs and walls (precast or cast-in-place), concrete block and masonry walls, stucco, plaster, metal (steel, galvanized steel, aluminum, anodized finishes, building facades, roofing, et cetera), and hardwood panels and doors.

REPRESENTATIVE PROJECTS

Chemical Analysis

- Evaluation of concrete, admixtures and additives, coatings, sealers and curing compounds, integral and penetrating waterproofers, sealants, and adhesives; and identification of aqueous constituents and degradation byproducts within osmotic coating blisters

Construction Specification and Inspection

- Concrete, vapor retarder, coatings, resilient flooring finishes, carpet, adhesives, moisture reduction systems, chemical strippers, ceramic, porcelain, and mosaic tile finishes
- ArcelorMittal Burns Harbor Coke Ovens: Coatings inspection and specification services, Burns Harbor, Indiana
- SABIC chemical plant: Coatings inspection, Ottawa, Illinois
- Calder's Flamingo Landmark Sculpture: Coatings inspection and consultation, Chicago, Illinois

Failure Investigation

- INVESCO Field: Patina development of weathering steel and chemical conversion coat issues, Denver, Colorado
- University of Wyoming War Stadium: Coating Failure over steel and repair recommendations, Laramie, Wyoming
- Perrysburg High School: Linoleum tile finish, Perrysburg, Ohio
- Shedd Aquarium, Epoxy tank liners, Chicago, Illinois
- Brookfield Zoo, Epoxy tank liners, Brookfield, Illinois
- Indianapolis Zoo: Epoxy tank liners, Indianapolis, Indiana
- Melon Bank Building: Coating and zinc-rich primer over 54-story stressed steel skin facade, Pittsburgh, Ohio
- Kona Pool, Hyatt Regency Waikoloa: 56,000 square foot mosaic tile swimming pool, Hawaii
- The Macallen Building Condominiums: Prefinished strip bamboo wood flooring, Boston, Massachusetts
- The National Wildlife Research Center: Distressed coating systems, Fort Collins, Colorado
- Northeast Ohio Regional Sewer District (NEORS): Underground polyurea interceptor pipeline sewer coating system and litigation support, Cleveland, Ohio
- Caesar's Palace: MMA pool deck overlay system, Las Vegas, Nevada
- Golden Ridge Orthopedic Center: Sheet vinyl flooring, Golden, Colorado

Laboratory Studies

- Fourier-transform infrared spectrophotometry (FTIR), scanning electron microscopy (SEM), microscopical examinations, photographic documentation, wet chemical analyses, and adhesion (direct tensile and peel)

Materials Investigation

- Coatings; joint caulking and sealants, epoxy and cementitious terrazzo; resilient sheet vinyl, VCT, and linoleum finishes; carpet and adhesives; ceramic and quarry tile; weathering steel; concrete and CMU; and strand slippage

Personnel Qualifications