PERSONNEL QUALIFICATIONS

James D. Connolly | Senior Principal

EDUCATION

- Roosevelt University
  - Bachelor of Science, Chemistry, 1977

PRACTICE AREAS

- Chemical Analysis
- Concrete Deterioration
- Construction Specifications
- Durability Studies
- Failure Investigation
- Materials Investigation
- Research and Testing

PROFESSIONAL AFFILIATIONS

- American Chemical Society (ACS)
- ASTM International (ASTM)
- Society of Protective Coatings (SSPC)

TECHNICAL COMMITTEES

- ASTM C09 - Concrete and Concrete Aggregates
- ASTM C09.25 - Organic Materials for Bonding, Patching, and Sealing

CONTACT

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EXPERIENCE

James Connolly is an expert in materials failure analyses and remediation with more than forty years of experience in detailed microscopical, spectroscopical, chemical, and physical studies of construction materials. His experience also includes specification review, product and patent development, project management, and basic research.

Mr. Connolly retired as a senior principal of Wiss, Janney, Elstner Associates in January 2008. He served as manager of the Materials Science and Engineering group from 1987 to 2002. Prior to joining WJE in 1973, Mr. Connolly was an associate research chemist at Portland Cement Association (PCA) Research and Development Laboratories. He has lectured on coatings and sealant performance, concrete durability, chemical admixtures, and chemical and petrographic analyses for several universities and the Portland Cement Association.

REPRESENTATIVE PROJECTS

Failure Investigation

- Cementitious Materials: Concrete, mortars, and grouts, strength, adhesion, and durability problems, prestressed concrete strand slippage
- Windows: Etching, staining, sealant, failure, IGU failures, shatter film evaluation, safety and security glass cracking and delamination, and opacifier and reflective coating failures
- Coatings and Sealants: Veneer plaster, gypsum board, wood, glass, concrete, steel, and aluminum substrates for industrial, commercial, and residential projects
- Composites: Aluminum/polyethylene, metal/insulation sandwich panels, and laminates
- Tile: Ceramic, resilient, and carpet tile adhesion
- Adhesive Delamination: Thermosetting, thermoplastic, elastomeric, and contact/pressure sensitive adhesives
- Specifications: Concrete, coatings, and sealants

Materials Investigation -Product Liability Cases

- PVC roofing membranes
- Phenolic foam insulation
- FRT plywood and lumber
- Zinc-rich primers
- Laminate adhesive
- Precast/prestressed concrete

Research and Testing

- NCHRP 10-62 Acceptance Tests for Surface Characteristics of Steel Strouds in Prestressed Concrete
- NCHRP 244 Sealers for Concrete
- NCHRP 18.08A - Supplementary Cementitious Materials to Enhance Durability of Concrete Bridge Decks
- PCI - Effect of curing temperature and cement chemistry on the potential for concrete expansion due to DEF
- PCA - Analytical methods for the study of cement, concrete, and chemical admixtures