



Sang-yun Lee, Ph.D., P.E.

PRINCIPAL PETROGRAPHER

Dr. Lee has extensive experience in materials evaluation in microscopical, petrographic, chemical, physical and field investigations of various construction and geological materials. Dr. Lee leads projects that document quality and composition of cementitious and geological construction materials in regard to performance problems, causes of distress and failure, quality assurance and assistance in renovation. His expertise includes: petrographic and microscopical examination; SEM-EDS analysis; masonry and stucco examination; concrete and aggregate petrography; flooring and coating system evaluation; and litigation support.

Academic Credentials

Ph.D. in Geology (Petrology)
Texas Tech University, 1999

M.S. in Civil Engineering
(Materials)

Texas Tech University, 2001

B.S. in Geology

Kyungpook National University,
Taegu, South Korea, 1995

Licensure/Certification

Professional Engineer
Texas

Licensed Professional Geologist
Indiana

Professional Affiliations

American Concrete Institute

ASTM International

State Microscopical Society of IL

The Society of Concrete
Petrographers

Contact Information

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Representative Project Experience

Concrete Quality and Condition Evaluation Support

- Performed petrographic examination of concrete samples from an embassy building to evaluate concrete placement and consolidation problems, and assess overall concrete quality and condition.

Aggregate Petrography

- Performed petrographic examination of aggregates (ASTM C295) as a part of preconstruction evaluation of materials for pier construction project in Hawaii.

Air-Void System Analysis

- Part of a team that developed a computerized linear-traverse/point-count device meeting the requirements of ASTM C457.

Materials Characterization and SEM/EDS

- Performed laboratory tests of Chrome Ore Processing Residue (COPR) samples. Tests included optical microscopy, SEM/EDS, and X-Ray Diffraction to characterize the COPR materials.

Fire Damage of Concrete

- Investigated fire damaged concrete bridge located near Brownstone, Illinois. Performed laboratory analysis, determined the extent of the damage, and provided condition assessment support for the repair of the damaged concrete.

Flooring System

- Investigated terrazzo floor distress in an elementary school in Minnesota. Performed field investigation and laboratory analysis (petrographic examination) for the collected samples to determine the cause of the terrazzo distress.

Deterioration Investigation

- Investigated distressed (scaled) concrete sidewalk and driveway apron in a commercial area in Quakertown, Pennsylvania. Performed petrographic examination, air-void system analysis, and chemical analysis to determine cause of reported concrete surface distress.