



CAPABILITY PROFILE

Austin Laboratory



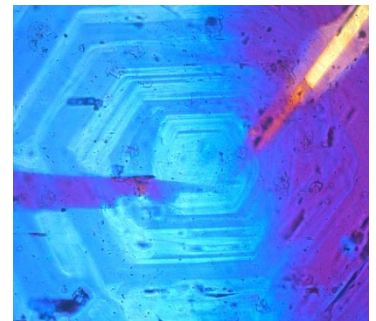
- Materials Science and Testing
- Petrography
- Concrete Mix Design Development
- Cement, Concrete, and Mortar Analysis
- Corrosion and Service Life Assessments
- Applied Research, Test Method Development, and Product Evaluation
- Structural Load Testing
- Field Instrumentation and Nondestructive Evaluation
- Standardized (ASTM and other) and Specialty Testing, including but not limited to:
 - C39 ▫ C856
 - C42 ▫ C1170
 - C192 ▫ C1202
 - C260 ▫ C1260
 - C457 ▫ C1293
 - C469 ▫ C1567
 - C494 ▫ C1583
 - C642

WJE is a global firm of engineers, architects, and materials scientists that specializes in the investigation, analysis, testing, and design of repairs for historic and contemporary structures. Since our founding in 1956, WJE has focused on delivering practical, innovative, and technically sound solutions across all areas of new and existing construction. To underpin that effort, WJE’s Austin laboratory, established in 1984, combines state-of-the-art laboratory facilities and testing capabilities with knowledge and expertise that is unparalleled in our profession.

The Austin laboratory is a 2,500-square-foot facility with a fully equipped petrography laboratory, concrete materials laboratory, and strong floor for structural testing. Austin’s materials engineers, scientists, and technicians perform a wide variety of construction materials evaluations, including most types of aggregate and concrete materials tests, optical microscopy, field and laboratory structural testing, and nondestructive evaluations.

Our Austin staff work closely with WJE’s Janney Technical Center facility in Northbrook, Illinois—an expansive 70,000-square-foot testing and applied research facility including a full array of chemistry, petrography, metallurgy, concrete and mortar, corrosion, and structural testing laboratories.

From the laboratory to the job site, from engineering to materials sciences, we have the highly qualified staff and resources needed to develop and test new approaches and create innovative solutions for the built world.



Austin Laboratory



MATERIALS TESTING

- Modulus of Elasticity
- Density, Absorption, and Voids in Hardened Concrete
- Drying Shrinkage
- Alkali Silica Reaction
- Rapid Chloride Penetrability and Resistivity
- Splitting Tensile Strength
- Coefficient of Thermal Expansion
- Compressive Strength and Shear Strength
- Static Segregation and Slump Flow/J-ring of SCC
- Pressure-Bleed Test, Volume Change, and Inclined Tube Testing of Grout

MICROSCOPY

- Petrography
- Air Void Distribution
- Premature Concrete Deterioration and Related Distresses
- Evaluation of Coatings and Concrete Repairs

NONDESTRUCTIVE EVALUATION

- Ground Penetrating Radar (GPR)
- Ultrasonic Pulse Velocity
- Impact Echo, Impulse Response
- Magnetic Particle Inspection
- Negative Pressure Uplift
- Air and Water Infiltration
- Corrosion Potential and Rate Test
- Acoustic Sounding

STRUCTURAL TESTING

- Load and Fatigue Testing
- Coring and Strength Testing of In-place Concrete
- Strain, Deflection, Rotation, and Movement Measurements
- Davit and Dedicated Anchorage Testing
- Strain Relief Method
- Bond and Adhesion Testing

MONITORING AND INSTRUMENTATION

- Temperature, Humidity, and Moisture Transmission
- Crack Monitoring
- Piezometer Monitoring
- Concrete Placement Inspection

LABORATORY SPECIALTIES

- Physical Properties and Composition
- Historic Materials
- Recycled Materials
- Post-tensioned Grouts
- Roller Compacted Concrete
- 3D Printed Materials
- Evaluation of Concrete Repair Materials
- Thermal Control Plans for Mass Concrete
- Development of Specialized Concrete Mixtures

STAFF CERTIFICATIONS

- American Concrete Institute (ACI)
 - Laboratory Testing Technician - Level I and II
 - Field Testing Technician
 - Strength Testing Technician
 - Concrete Quality Technical Manager
- American Welding Society (AWS)
 - Certified Welder and Welding Operator
 - Certified Welding Inspector
- International Concrete Repair Institute (ICRI)
 - Concrete Slab Moisture Testing Technician
- National Association of Corrosion Engineers (NACE International)
 - Cathodic Protection - Level CP 2
 - Coating Inspector - CIP Level 2
- Precast Concrete Institute (PCI)
 - Quality Control School - Levels I - II
- National Ready Mixed Concrete Association
 - Concrete Technologist - Level 4

QUALITY PROGRAMS AND ACCREDITATIONS

- AASHTO Materials Reference Laboratory (AMRL)
- Corps of Engineer Validated Laboratory
- AMRL Proficiency Sample Program - Aggregates
- CCRL Proficiency Sample Programs
 - Concrete
 - Alkali-Silica Reaction

WJE AUSTIN LABORATORY

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