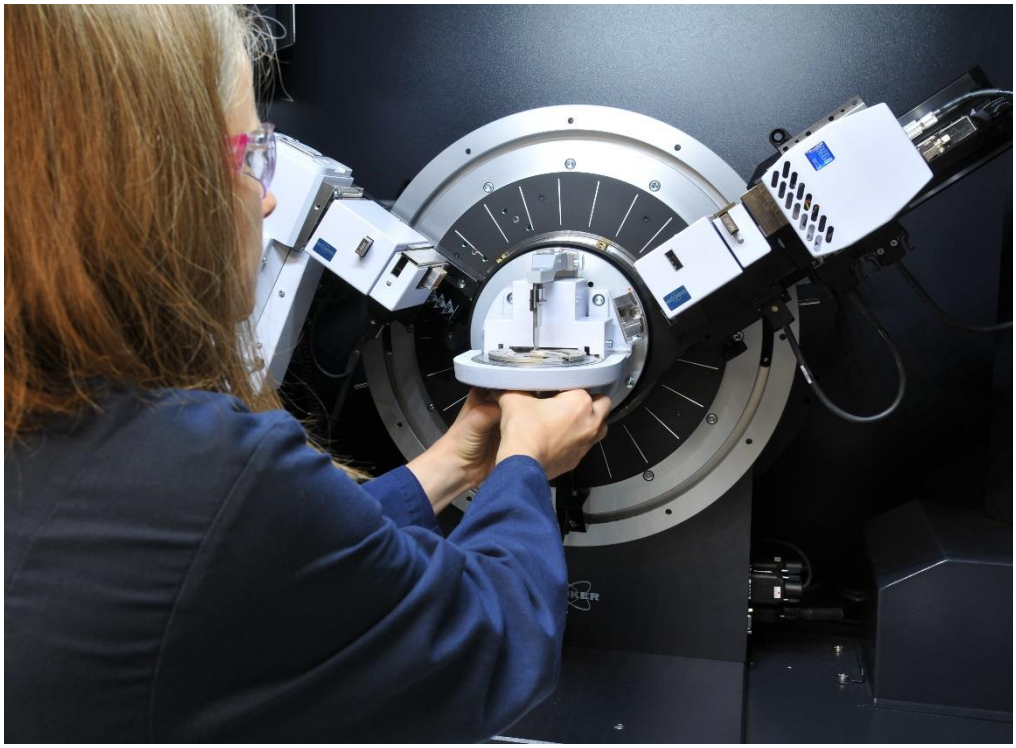
SERVICE PROFILE

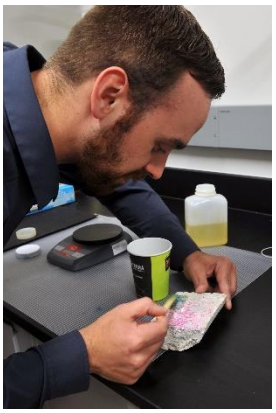
Laboratory Research



- Comprehensive construction materials testing and analysis
- Component and performance evaluation testing
- Accelerated weathering and controlled conditions for testing
- Materials research
- Materials specifications and drawings
- Development of test protocol
- Inorganic/organic chemistry
- Analytical chemistry
- Petrographic evaluation
- Metallurgical testing
- Thermal analysis

In 1949, a young Jack Janney was awarded a small research grant for laboratory testing of prestressed concrete. His resulting graduate thesis was the first in the United States on the emerging construction technology. His expertise was later sought by the Illinois Tollway Authority to oversee their use of the revolutionary materials system in the construction of a new tollway. This single consulting assignment laid the foundation for more than 125,000 WJE projects and dozens of large-scale research initiatives for government, industry, and private-sector clients.

Whether investigating a specific project challenge or collaborating with government agencies and industry partners on long-term research initiatives, we have the experience and in-house capabilities to provide clients the answers they seek while continuing to play an active role in the advancement of industry knowledge and standards.



Research is at the heart of WJE's work. Each project comes with new challenges to tackle and new questions to answer. Six decades later, we continue to be a pioneer in industry research, committed to finding better solutions for the built world. Supported by the broad-spectrum capabilities of our 70,000-square-foot state-of-the-art Janney Technical Center testing and applied research facility as well as laboratories in Austin, Texas, and Cleveland, Ohio, our engineers, architects, and materials scientists research materials and systems; study design and repair methodologies; and assist with the development of industry best practices, building codes, and standards.

WJE ENGINEERS ARCHITECTS MATERIALS SCIENTISTS

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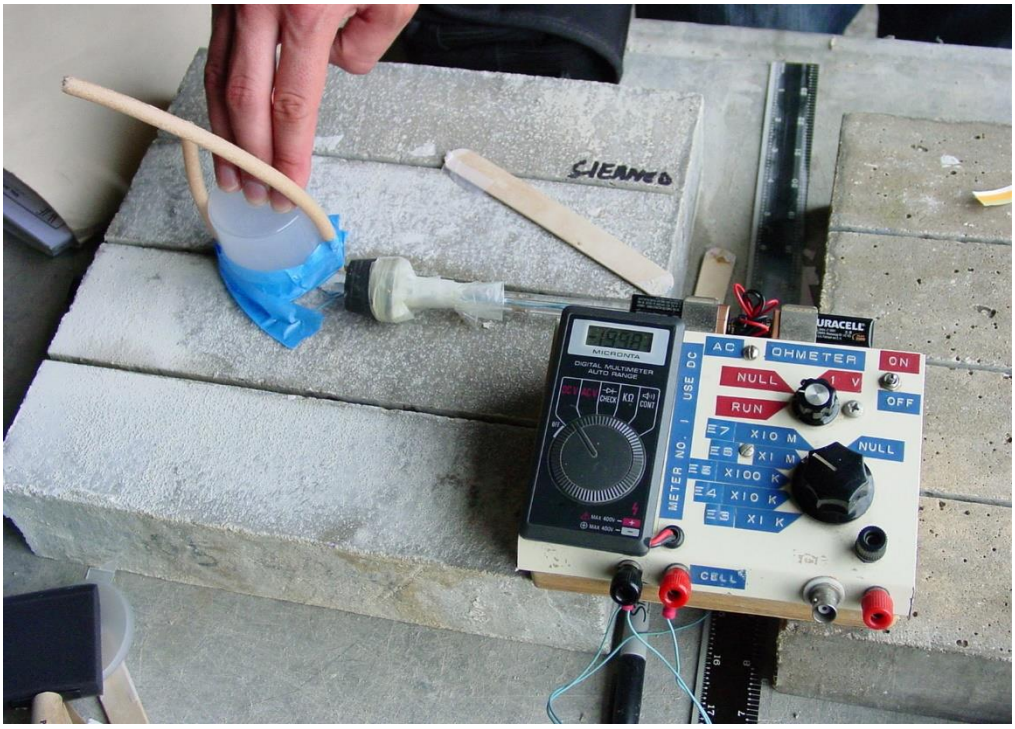
REPRESENTATIVE PROJECTS

- Consortium of Universities for Research in Earthquake Engineering: Study of cyclic behavior of sill plate-to-foundation anchorage connections
- Federal Highway Administration: Corrosion evaluation of epoxy-coated, metallic-clad, and solid metallic reinforcing bars in concrete
- Federal Highway Administration: Study of fiber-reinforced polymer strengthening methods for box beams and operation of FHWA's Nondestructive Evaluation Validation Center
- Iowa Department of Transportation: Cyclic saltwater testing of coated steel coupons
- Lyndon Baines Johnson Library - Austin, TX: Research to determine whether carbon fiber could be used to reinforce pedestal-set stone pavers
- Montana Department of Transportation: Development of high-performance concrete mixtures using locally available materials
- Precast/Prestressed Concrete Institute: Development of rational design methodologies for dapped ends of prestressed concrete thin-stemmed members
- Precast/Prestressed Concrete Institute: Study of volume change movements and forces in precast structures
- Quality Saw & Seal, Inc.: Evaluation of saw-cut joint preparation for elastomeric sealant
- Simpson Strong-Tie: Mechanical and adhesive anchor testing for building code approval



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