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Jacob W. Arnold

P.E.
Manager of Testing Services

About Jacob

Jacob Arnold manages RRJ's field and laboratory testing services offered across the firm's forensic architectural and structural engineering practice. He is responsible for the day-to-day operations related to these services, including test program design and implementation, staff coordination, equipment calibration and maintenance, and new equipment research and purchases.

Jacob has over seven years of experience in both laboratory and in situ testing of building materials, components, and systems. This experience includes field quality control testing for building enclosure commissioning, adhesion strength testing of coatings and air- and weather-resistive barriers; strength testing of stone, concrete, mortars, and other materials; material property testing; and mechanical testing of anchorages and fasteners.

In addition to testing services, Jacob also has experience in investigation and repair services, condition surveying, contractor support, litigation consulting, construction contract administration, and other services offered by RRJ. Examples include air and water leakage investigations, masonry wall condition surveys, the evaluation and dissection of insulated glass units, and the preparation of contract documents and reports. He has also developed and implemented many instrumentation programs to monitor and evaluate issues, such as condensation potential, stormwater management, and building movement.

Education

Master of Science in Industrial Engineering, 2014
Concentration in Civil and Environmental Engineering
University of Illinois at Urbana-Champaign

Bachelor of Science in General Engineering, 2011
University of Illinois at Urbana-Champaign

Licensure | Certifications

Professional Engineer IL
Construction Documents Technologist (CDT)
ACI Nondestructive Testing Specialist
Concrete Strength
Level 1 Certified Infrared Thermographer

Professional Affiliations

ASTM International
Committee D01 on Paint and Related Coatings,
Materials, and Applications, Member
IIBEC, Chicago Chapter Board of Directors
Associated General Contractors of America (AGC)



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Presentations | Publications

"Fiber-Cement Panel Siding Nail Head Pull-Through Resistance," *The Construction Specifier*, J.W. Arnold, C.P. Rueb, and K.R. Hoigard, January 2022

"Dimension Stone Water Absorption and Bulk Specific Gravity: An Interlaboratory Study of the Influence of Size, Shape, and Test Methodology on Properties Determination," *ASTM International Selected Technical Papers STP1628 On Dimension Stone Use in the Built Environment*, J.W. Arnold, D.S. Kneezel, S. Scallorn, November 2021

"Specification Strategies for Field Testing Success," *Proceedings of the RCI 2018 Building Envelope Technology Symposium*, Nashville, TN, P.E. Reicher and J.W. Arnold, November 17, 2018

"Specification Strategies for Field Testing Services," *RCI, Inc. 2018 Symposium on Building Envelope Technology*, Nashville, TN, P.E. Reicher and J.W. Arnold, November 16, 2018

"Quantitative Evaluation of Rejuvenators to Restore Embrittlement Temperatures in Oxidized Asphalt Mixtures Using Acoustic Emission," *Proceedings of SPIE, the International Society for Optical Engineering Vol. 9438, Health Monitoring of Structural and Biological Systems 2015*, DOI 10.1117/12.2082573, Zhe Sun, N. Farace, J.W. Arnold, B. Behnia, W.G. Buttlar, and H. Reis, March 23, 2015

"Quantitative Evaluation of Low-Temperature Performance of Sustainable Asphalt Pavements Containing Recycled Asphalt Shingles (RAS)," *Journal of Construction and Building Materials, Vol. 58*, J.W. Arnold, B. Behnia, M.E. McGovern, B. Hill, W.G. Buttlar, and H. Reis, May 15, 2014