

KURT R. HOIGARD, P.E., SECB, F.ASTM

Senior Principal



+CONTACT

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Kurt Hoigard is a licensed Professional Engineer and Senior Principal at Raths, Raths & Johnson responsible for the leadership and project oversight of the firm's evaluations, investigations, and field and laboratory testing services. His career at RRJ spans 33 years specializing in the investigation and repair of distressed and deteriorated structures and the performance of building materials and systems.

He has consulted in the areas of preconstruction, peer review, implementation of construction quality assurance programs, water leakage investigation, complete collapse, and repair/restoration design. He serves diverse clients nationally from property owners, contractors, architects, engineers, and material suppliers to insurance companies and attorneys.

His specific project responsibilities consist of existing condition documentation, investigations, structural analysis, instrumentation for building psychrometric performance and structural dynamic behavior, construction tolerance studies, material evaluation, and preparation of repair plans and specifications. As an expert witness, he has provided litigation support and testimony on a range of matters.

Mr. Hoigard has leading industry knowledge and expertise in all major building materials and systems, with particular emphasis on exterior cladding, fenestration systems, concrete, building stone, and plaza waterproofing. He is a frequent industry speaker and author on topics related to window and curtain wall testing, building wall vapor control, condensation, masonry leakage, concrete construction, precast concrete panel behavior, terra cotta construction, and building stone testing and behavior.

■ EDUCATION

Master of Science in Civil Engineering
 Illinois Institute of Technology
 Bachelor of Science in Civil Engineering
 Structural Option
 Illinois Institute of Technology

■ REGISTRATIONS | CERTIFICATIONS

Licensed Professional Engineer in Alabama, Colorado, Connecticut, Delaware, District of Columbia, Florida, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Vermont, Virginia, and Wisconsin

Temporary Licensee of the Association of Professional Engineers & Geoscientists of Saskatchewan, Canada

Structural Engineering Certification Board (SECB)

Certified Third-Party EIFS Inspector
 Exterior Design Institute (EDI)

Certified Moisture Analyst
 Exterior Design Institute (EDI)

Chicago Registered Energy Professional

■ PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers (ASCE)
 American Institute of Steel Construction (AISC)
 ASTM International, Fellow
 Architectural Engineering Institute (AEI)
 American Concrete Institute (ACI)
 International Code Council (ICC)
 National Society of Professional Engineers (NSPE)
 Structural Engineering Institute (SEI)

■ HONORS | AWARDS

Lawyer Monthly Magazine, Expert Witness Award,
 Construction-USA, 2019

Who's Who Legal: Construction
 Expert Witness 2016, 2019

ASTM International

Committee C18 on Dimension Stone, Chairman
 Award of Merit for contributions, April 2007

Daniel W. Kessler Award for contributions, Oct. 2007

Chairman Service Award, Oct. 2005

Committee on Standards Service Award, Sept. 2000

American Institute of Steel Construction (AISC)
 Fellowship Award, 1984



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■ PUBLICATIONS

- "Delegated Design Done Right," *Building Enclosure*, K.R. Hoigard and D.E. Boatwright, April 5, 2019
- "Impact of Outdoor Exposure on the Performance of Insulating Glass Unit Primary Sealant: A Case History," R.R. Booth, K.R. Hoigard, D.K. Johnson, and J.M. Klosowski, *Durability of Building and Construction Sealants and Adhesives: 6th Volume, ASTM STP1604*, C.C. White and H. Miyauchi, Eds., ASTM International, West Conshohocken, PA, 2018
- "Exterior Facade Repairs at PNC Bank Building: Adjusting for Unanticipated Conditions," *Applicator*, K.R. Hoigard and D.C. Fortino, Summer 2016
- "Evaluation and Repair of Insufficiently Reinforced Precast Concrete Double Tee Members," *Proceedings of the ASCE Forensic Engineering 7th Congress*, Miami, FL, K.R. Hoigard and K. Conroy, November 18, 2015
- "Designing Plaza Hardscapes," *The Construction Specifier*, K.R. Hoigard and B.T. Lammert, April 2014
- "Grain Elevator Collapse," *RRJ Insight* Issue No. 30, K.R. Hoigard and G.R. Mulholland, August 2013
- "Plaza Construction - What Lies Beneath," *RRJ Insight* Issue No. 29, K.R. Hoigard and B.T. Lammert, Jun. 2012
- "Stone Cladding Anchorage Stiffness," *RRJ Insight* Issue No. 24, September 2008
- "Dimension Stone Use in Building Construction," *ASTM STP 1499*, ASTM International, West Conshohocken, PA, K.R. Hoigard and M.J. Scheffler, Eds., 2007
- "Terra Cotta Facade Repairs on Two Mellon Center," *Proceedings of the Tenth North American Masonry Conference*, St. Louis, MO, R.C. Haukohl, G.R. Mulholland, and K.R. Hoigard, June 2007
- "Stiffness Considerations in Dimension Stone Anchorage Design," *Dimension Stone Use in Building Construction*, ASTM STP 1499, K. R. Hoigard and M. J. Scheffler, Eds., ASTM International, West Conshohocken, PA, 2007, and *Journal of ASTM International*, Vol. 4, No. 6, Paper ID JAI101062, K. Conroy and K.R. Hoigard
- "Material Strength Considerations in Dimension Stone Anchorage Design," *Dimension Stone Use in Building Construction*, ASTM STP 1499, K.R. Hoigard and M.J. Scheffler, Eds., ASTM International, West Conshohocken, PA, 2007, and *Journal of ASTM International*, Vol. 4, No. 6, Paper ID JAI101102, B.T. Lammert and K.R. Hoigard
- "An Overview of Water Leakage Paths into Exterior Walls," *Proceedings of the Paint and Coating Expo (PACE) 2006 Conference*, Tampa, FL, K.R. Hoigard and G.D. Hall, January 2006
- "Water-Resistive Barriers: How do they compare?" *IIBEC Interface, Technical Journal of IIBEC*, G.D. Hall and K.R. Hoigard, November 2005
- "Experian Headquarters Window and Curtain Wall Testing," *RRJ Insight* Issue No. 20, B.A. Faith and K.R. Hoigard, February 2005
- "Laboratory Testing of Weather-Resistive Barriers," *RRJ Insight* Issue No. 20, G.D. Hall and K.R. Hoigard, February 2005
- "Bonded Concrete Toppings," *Structural Engineer*, C.H. Rath and K.R. Hoigard, August 2004
- "Terra Cotta Facades," *Building Facade Maintenance, Repair, and Inspection*, ASTM STP 1444, J.L. Erdly and T.A. Schwartz, Eds., ASTM International, West Conshohocken, PA, pp. 75-90, K.R. Hoigard, G.R. Mulholland, and R.C. Haukohl, 2004



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■ PUBLICATIONS

- "Detecting Mild Steel Hairpin Anchors in Stone Cladding," *Stone World*, K.R. Hoigard and G.R. Mulholland, March 2003
- "Hampden Green Condominium Facade Replacement," RRJ *Insight* Issue No. 18, B.A. Faith and K.R. Hoigard, March 2003
- "More Bad News About Gypsum-Based Grout," RRJ *Insight* Issue No. 18, March 2003
- Major contributor to ASTM C1528-02, "Standard Guide for the Selection of Dimension Stone for Exterior Use," ASTM International, West Conshohocken, PA
- "Vintage Timber Truss Roofs: Collapses Waiting to Happen," RRJ *Insight* Issue No. 16, D.B. Tigue and K.R. Hoigard, March 2001
- "Two Mellon Bank Center Terra Cotta Restoration," RRJ *Insight* Issue No. 15, K.R. Hoigard and G.R. Mulholland, September 2000
- "Vintage Timber Truss Roofs: Claims Waiting to Happen," *Claims Magazine*, D.B. Tigue and K.R. Hoigard, June 2000
- "Restoration of a Vintage Limestone Portico with Architectural Precast Concrete," *Precast/Prestressed Concrete Institute Journal*, K.R. Hoigard and D.B. Tigue, January/February 2000
- "Dimension Stone Cladding: Design, Construction, Evaluation, and Repair," ASTM STP 1394, ASTM International, West Conshohocken, PA, K.R. Hoigard, Ed., 2000
- "Repair Methods for Stone Facades," Dimension Stone Cladding: Design, Construction, Evaluation, and Repair, ASTM STP 1394, K.R. Hoigard, Ed., ASTM International, West Conshohocken, PA, K.R. Hoigard and G.R. Mulholland, 2000
- "Grouted Stone Facade Kerf Failures," RRJ *Insight* Issue No. 13, November 1999
- "Portland Cement and Gypsum - An Expansive Combination," RRJ *Insight* No. 13, November 1999
- "Specifying Exterior Grout," RRJ *Insight* Issue No. 13, November 1999
- "Evaluating Lift Bridge Imbalance," RRJ *Insight* Issue No. 11, March 1999
- "NRC Stone Facade Repairs," RRJ *Insight* Issue No. 8, March 1998
- "Nondestructive Stone Anchor Identification," RRJ *Insight* Issue No. 8, March 1998
- "More About Curtain Wall Hose Testing," RRJ *Insight* Issue No. 6, March 1997
- "The Facts About Hose Testing," Water Leakage through Building Facades, ASTM STP 1314, R.J. Kudder and J.L. Erdly, Eds., ASTM International, Philadelphia, PA, K.R. Hoigard and R.J. Kudder, 1997
- "Evaluation of Stone Cladding Anchorages on Precast Concrete Building Panels," Degradation of Natural Stone, ASCE Geotechnical Special Publication No. 72, J.F. Labuz, Ed., American Society of Civil Engineers, K.R. Hoigard and G.R. Mulholland, 1997
- Major contributor to ASTM C1352-96, "Standard Test Method for Flexural Modulus of Elasticity of Dimension Stone," ASTM International, Philadelphia, PA
- Major contributor to ASTM C1354-96, "Standard Test Method for Strength of Individual Anchorages in Dimension Stone," ASTM International, Philadelphia, PA



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■ PUBLICATIONS

- "RRJ - A Brief History," RRJ *Insight* Issue No. 5, C.H. Raths and K.R. Hoigard, August 1996
- "Surety Bond Claims," RRJ *Insight* Issue No. 4, March 1995
- "Demonstrative Models," RRJ *Insight* Issue No. 3, January 1995
- "Testing for Leakage," *Architecture*, September 1994
- "Load Testing Chicago's Elevated Train System," RRJ *Insight* Issue No. 2, K.R. Hoigard and R.W. Kritzer, September 1994
- "Pressures Generated During Curtain Wall Hose Tests," RRJ *Insight* Issue No. 1, May 1994
- "Structural Analysis of Stone Clad Precast Concrete Building Panels," Proceedings of the 34th U.S. Symposium on Rock Mechanics, Madison, WI, K.R. Hoigard, R.W. Kritzer, and G.R. Mulholland, June 1993
- "Including ASTM E514 Tests in Field Evaluations of Brick Masonry," *Masonry: Design and Construction, Problems and Repairs*, ASTM STP 1180, J.M. Melander and L.R. Laudersdoff, Eds., ASTM International, Philadelphia, PA, K.R. Hoigard, R.J. Kudder, and K.M. Lies, 1993
- "Performance of a Modified Sealant Fillet Detail," *Science and Technology of Building Seals, Sealants, Glazing and Waterproofing: Second Volume*, ASTM STP 1142, J.M. Klosowski, Ed., ASTM International, Philadelphia, PA, K.R. Hoigard and R.J. Kudder, 1992
- Major contributor to ASTM C1242-93, "Standard Guide for Design, Selection, and Installation of Exterior Dimension Stone Anchors and Anchoring Systems," ASTM International, Philadelphia, PA
- "Specifying Stone Testing," *The Construction Specifier*, K.R. Hoigard and C.H. Raths, December 1991
- "Vapor Control and Psychrometric Monitoring in Exterior Walls," *Water in Exterior Building Walls: Problems and Solutions*, ASTM STP 1107, T. A. Schwartz, Ed., ASTM International, Philadelphia, PA, R.J. Kudder and K.R. Hoigard, 1991
- Major contributor to ASTM C1201-91, "Standard Test Method for Structural Performance of Exterior Dimension Stone Cladding Systems by Uniform Static Air Pressure Difference," ASTM International, Philadelphia, PA
- "Construction Details Affecting Wall Condensation," Proceedings, BTECC Symposium on Air Infiltration, Ventilation and Moisture Transfer, Fort Worth, TX, R.J. Kudder, K.M. Lies, and K.R. Hoigard, December 1986
- "The Effects of Hostile Environment on Adhesively Bonded Steel Bridge Connections," Proceedings of the Third International Bridge Conference, Pittsburgh, PA, K.R. Hoigard and A. Longinow, June 1986

■ PRESENTATIONS

- "Delegated Design - The Good, The Bad, and The Ugly," The Construction Specifications Institute, Chicago Area Chapter, Chicago, IL, January 22, 2019
- "Delegated Design - The Good, The Bad, and The Ugly," The Construction Specifications Institute, Northern Illinois Chapter, Glen Ellyn, IL, November 15, 2018
- "Surely You're Joking, Mr. Hoigard," Illinois Institute of Technology, Department of Civil and Architectural Engineering, Chicago, IL, November 5, 2018



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■ PRESENTATIONS

- "Delegated Design: Promises and Perils," Association of Licensed Architects (ALA), Midwest Architecture Conference, Oakbrook Terrace, IL, October 2, 2018
- "Prescriptions for Envelope Problems," Healthcare Engineers Society of Northern Illinois (HESNI) Annual Conference, Naperville, IL, May 4, 2017
- "A Perfect Storm: Indiana State Fair Stage Canopy Collapse," Minnesota State Bar Association, CLE Program, Minneapolis, MN, March 10, 2017
- "A Prescription for Problems," Minnesota Health Care Engineers Association, Annual Fall Conference, Hinckley, MN, September 8, 2016
- "A Perfect Storm: Indiana State Fair Stage Canopy Collapse," Society of Illinois Construction Attorneys, Continuing Education Seminar, Chicago, IL, K.R. Hoigard and B.T. Lammert, June 21, 2016
- "2 + 2 = 3? Something Just Doesn't Add Up," Association of Licensed Architects (ALA), Midwest Architecture Conference, Oakbrook Terrace, IL, October 6, 2015
- "The Construction Expert's Toolbox," The Society of Illinois Construction Attorneys seminar, Ethics for Legal Counsel and Neutrals and the ADR Process, Chicago, IL, K.R. Hoigard and S.K. Flock, April 16, 2013
- "Some Things Really Do Go Bump in the Night - Part II," Commercial Law League of America 2012 National Convention, Chicago, IL, May 3, 2012
- "Some Things Really Do Go Bump in the Night," Chicago Bar Association, Chicago, IL, February 6, 2012
- "D'oh! A Study of Four Simple Mistakes with Potentially Deadly Consequences," University of Illinois Chi Epsilon Pledge Initiation Meeting, April 3, 2008
- ASTM International Symposium on Dimension Stone Use in Building Construction, Tampa, FL, K.R. Hoigard, Symposium Co-Chairman, October 2007
- "A Primer on Bonded Concrete Toppings," joint meeting of the International Concrete Repair Institute and the Minnesota Concrete Council, St. Paul, MN, April 19, 2007
- "Say it Ain't So - A Study of Four Simple Mistakes with Costly Results," Valparaiso University, College of Engineering, 2005 Principles of Engineering Practice Series, Valparaiso, IN, March 16, 2005
- "Oops! Forgetting the Basics Can Bite You in the A**," Valparaiso University, College of Engineering, 2002 Principles of Engineering Practice Seminar Series, Valparaiso, IN, April 18, 2002
- "Terra Cotta Facades," Symposium on Building Facade Maintenance, Repair, and Inspection, ASTM STP 1444, ASTM International, Norfolk, VA, K.R. Hoigard, G.R. Mulholland, and R.C. Haukohl, 2002
- "Dimension Stone Cladding: Design, Construction, Evaluation, and Repair," ASTM STP 1394, ASTM International, West Conshohocken, PA, K.R. Hoigard, 2000
- "Concrete Basics," Chicago Region American Arbitration Association, 2000 Arbitrator Continuing Education Series, July 21, 2000
- ASTM International Symposium on Dimension Stone Cladding: Design, Construction, Evaluation, and Repair, New Orleans, LA, K.R. Hoigard, Symposium Chairman, October 27, 1999
- "Historic Terra Cotta Facade Construction," Illinois Institute of Technology, Department of Civil and Architectural Engineering, 1999 Graduate Seminar Series, Chicago, IL, March 1999



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"Investigation and Repair of Terra Cotta Facades," American Society of Civil Engineers, Illinois Section Structures Group, K.R. Hoigard and G.R. Mulholland, February 17, 1999

"Performance of a Modified Sealant Fillet Detail," Science and Technology of Building Seals, Sealants, Glazing and Waterproofing: Second Volume, ASTM STP 1142, Jerome M. Klosowski, Ed., ASTM International, Philadelphia, PA, K.R. Hoigard and R.J. Kudder, 1992

"Physical Testing of Natural Building Stone," The Construction Specifications Institute, Northern Illinois Chapter, Educational Program, Itasca, IL, May 3, 1989

"The Effects of Hostile Environment on Adhesively Bonded Steel Bridge Connections," Third International Bridge Conference, Pittsburgh, PA, K.R. Hoigard and A. Longinow, June 1986