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## **PUBLICATIONS**

### **Journal Publications**

1. \*Olek, J. and Sliwinski, J., "The Possibilities of Using Nondestructive Methods for Brick Testing" - *Mozliwosci badania pelnych cegiel ceramicznych metodami nieniszczacymi* - *Czasopismo Techniczne No. Z-/B (200)*, Polish Society of Civil Engineers, pp. 283 - 292, 1978.
2. \*Olek, J. and Diamond, S., "Proportioning of Constant Paste Composition Fly Ash Concrete Mixtures", *ACI Materials Journal*, American Concrete Institute, Vol. 86, No. 2, pp. 159 - 166, 1989, (Note: Chinese translation of this article was included in the book titled "Fly Ash for Use in Concrete", ISBN 957-9418-00-4, pp. 72 - 82, 1991.)
3. \*Cohen, M. D. and \*Olek, J., "Silica Fume in PCC: The Effects of Form on Engineering Performance", *Concrete International*, Vol. 11, No. 11, pp. 43 - 47, 1989.
4. \*Cohen, M. D., \*Olek, J. and Dolch, W., "Mechanism of Plastic Shrinkage Cracking in Portland Cement-Silica Fume Paste, Mortar and Concrete", *Cement and Concrete Research*, Vol. 20, No. 1, pp. 103 - 119, 1990.
5. \*Olek, J., Cohen, M. D. and Lobo, C., "Determination of Surface Area of Portland Cement and Silica Fume by Mercury Intrusion Porosimetry", *ACI Materials Journal*, Vol. 87, No. 5, pp. 473 - 478, 1990.
6. \*Cohen, M. D., \*Olek, J. and Mather, B., "Silica Fume Improves Expansive-Cement Concrete", *Concrete International*, American Concrete Institute, Vol. 13, No. 3, pp. 31 - 37, 1991.
7. \*Olek, J. and \*Diamond, S., "Alteration of Polished Sections of Free Lime Containing Cement Clinker by Short-Term Atmospheric Exposure", *Cement and Concrete Research*, Vol. 21, No. 5, pp. 905 - 910, 1991.
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9. \*Diamond, S., \*Olek, J. and \*Wang, Y., "The Occurrence of Two-Tone Structures in Room Temperature Cured Cement Pastes", *Cement and Concrete Research*, Vol. 28, No. 9, pp. 1237 - 1243, 1998.
10. \*Tishmack, J. K., \*Olek, J. and \*Diamond, S., "Characterization of High-Calcium Fly Ashes and Their Potential Influence on Ettringite Formation in Concrete", *Cement, Concrete, and Aggregates*, Vol. 21, No. 1, pp. 82 - 92, 1999.
11. \*Peterman, R. J., \*Ramirez, J. A. and \*Olek, J., "Design of Semi-lightweight Bridge Girders

- Development-Length Considerations”, *Transportation Research Record*, No. 1696, Vol. 1, pp. 41 - 47, 2000.
12. \*Peterman, R. J., \*Ramirez, J. A. and \*Olek, J., “Influence of Flexure-Shear Cracking on Strand Development Length in Prestressed Concrete Members”, *PCI Journal*, Vol. 45, No. 5, pp. 76 - 93, 2000.
  13. \*Rangaraju, P. R. and \*Olek, J., “Evaluation of the Potential of Densified Silica Fume to Cause Alkali-Silica Reaction in Cementitious Matrices Using a Modified ASTM C-1260 Test Procedure”, *Cement, Concrete and Aggregates*, Vol. 22, No. 2, pp. 150 - 159, 2000.
  14. \*Tishmack, J. K., \*Olek, J., Diamond, S. and Sahu, S., “Characterization of Pore Solutions Expressed from High-Calcium Fly-Ash-Water Pastes”, *Fuel*, Vol. 80, No. 6, pp. 815 - 819, 2001.
  15. \*Santhanam, M., \*Cohen, M. D. and \*Olek, J., “Sulfate Attack Research - Whither Now?”, *Cement and Concrete Research*, Elsevier Science Ltd., Vol. 31, No. 6, pp. 845 - 851, 2001.
  16. \*Aquino, W., Lange, D. A. and \*Olek, J., “The Influence of Metakaolin and Silica Fume on the Chemistry of Alkali-Silica Reaction Products”, *Cement and Concrete Composites*, Vol. 23, pp. 485 - 493, 2001.
  17. \*Zhang, Z., \*Olek, J. and \*Diamond, S., “Studies on Delayed Ettringite Formation in Early Age Heat Cured Mortars: I. Expansion Measurements, Changes in Dynamic Modulus of Elasticity, and Weight Gains”, *Cement and Concrete Research*, Vol. 30, No. 11, pp. 1729 - 1736, 2002.
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  19. \*Santhanam, M., \*Cohen, M. D. and \*Olek, J., “Mechanism of Sulfate Attack: A Fresh Look. Part 1. Summary of Experimental Results”, *Cement and Concrete Research*, Vol. 32, No. 6, pp. 915 - 921, 2002.
  20. \*Zhang, Z., \*Olek, J. and \*Diamond, S., “Studies on Delayed Ettringite Formation in Early Age Heat Cured Mortars: II. Characteristics of Cement that May be Susceptible to DEF”, *Cement and Concrete Research*, Vol. 32, No. 11, pp. 1737 - 1742, 2002.
  21. \*Santhanam, M., \*Cohen, M. D. and \*Olek, J., “Mechanism of Sulfate Attack: A Fresh Look. Part 2. Proposed Mechanisms”, *Cement and Concrete Research*, Vol. 33, No. 3, pp. 341 - 346, 2003.
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  23. \*Martin, F. J. and \*Olek, J., “Experimental Procedure for Fundamental Studies on Reinforcing Steel Corrosion Process”, *Review of Scientific Instruments*, Vol. 74, No. 4, pp. 2512 - 2516, 2003.

24. [\\*Qi, C.](#), \*Weiss, J. and \*Olek, J., “Characterization of Plastic Shrinkage Cracking in Fiber Reinforced Concrete Using Image Analysis and Modified Weibull Function”, *Materials and Structures/Materiaux et Constructions* , Vol. 36, No. 260, pp. 386 - 395, 2003.
25. [\\*Elsharief, A.](#), \*Cohen, M. D. and \*Olek, J., “Influence of Aggregate Size, Water Cement Ratio and Age on the Microstructure of the Interfacial Transition Zone”, *Cement and Concrete Research*, Vol. 33, No. 11, pp. 1837 - 1849, 2003.
26. [\\*Neithalath, N.](#), \*Weiss, W. J. and \*Olek, J., “Acoustic Performance and Damping Behavior of Cellulose-Cement Composites”, *Cement and Concrete Composites*, 26 (4), pp. 359-370, 2004.
27. \*Marlof, A., [\\*Neithalath, N.](#), [Sell, E.](#), Wegner, K., \*Weiss, W. J. and \*Olek, J., “Influence of Aggregate Size and Gradation on the Sound Absorption of Enhanced Porosity Concrete”, *ACI Materials Journal*, Vol. 101, No. 1, January-February 2004, pp. 82-91.
28. [\\*Jonsson, J. A.](#) and Olek, J. “Effect of temperature-match-curing on freeze-thaw and scaling resistance of high-strength concrete”, *Cement, Concrete and Aggregates*, 26 (1), 21-25, 2004.
29. \*Olek, J. and [\\*Lu, A.](#), “Optimization of Composition of HPC Concrete with Respect to Service Life and Chloride Transport Properties”, *Cement, Wapno, Beton (Cement, Lime, Concrete)*, Vol. IX/LXXI, No. 6, pp. 271-283 December 2004.
30. [\\*Qi, C.](#), \*Weiss, W. J. and \*Olek, J., “The Statistical Significance of the Restrained Slag Test to Quantify Plastic Shrinkage Cracking in Fiber Reinforced Concrete,” *Journal of ASTM International*, Vol. 2, issue 7, 2005 (Electronic journal:  
<http://journalsip.astm.org/JOURNALS/JAI/PAGES/358.htm>
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32. [\\*Elsharief, A.](#), \*Cohen, M. D. and \*Olek, J., “Influence of Lightweight Aggregate on the Microstructure and Durability of Mortar”, *Cement and Concrete Research*, Vol. 35 (7), pp. 1368-1376, 2005.
33. [\\*Neithalath, N.](#), Garcia, R., Weiss, J., and Olek, J., “Tire-Pavement Interaction Noise: Recent Research on Concrete Pavement Surface Type and Texture, *International Journal of Concrete Pavements*, Vol. 1, No. 1, , pp. 88-105, December 2005.  
<http://www.concretepavements.org/ijournal.htm>
34. [\\*Yang, Z.](#), \*Weiss, W. J. and \*Olek, J., “Water Transport in Concrete Damaged by Tensile Loading and Freeze-Thaw Cycling”, *ASCE Journal of Materials in Civil Engineering*, 18 (3), pp.424-434, 2006.
35. [\\*Neithalath, N.](#), \*Weiss, W. J. and \*Olek, J., “Characterizing Enhanced Porosity Concrete using Electrical Impedance to Predict Electrical and Hydraulic Performance”, *Cement and Concrete Research*, 36 (11), pp. 2074-2085, 2006.
36. [\\*Santhanam, M.](#), \*Cohen, M. D. and \*Olek, J., “Differentiating Seawater and Groundwater

Sulfate Attack in Portland Cement Mortars ”, *Cement and Concrete Research*, Vol. 36, No. 12, pp. 2132 - 2137, 2006.

#### **Shorter Communications, Letters, Notes, or Briefs in Refereed Journals**

1. \*Olek, J. and Diamond, S., Reply to the Discussion of the paper “Proportioning of Constant Paste Composition Fly Ash Concrete Mixes”, *ACI Materials Journal*, American Concrete Institute, Vol. 87, No. 1, p. 84 - 85, 1990.
2. \*Diamond, S., \*Olek, J. and \*Wang, Y., Reply to the discussion of the paper “The Occurrence of Two-Tone Structures in Room-Temperature Cured Cement Pastes”, *Cement and Concrete Research*, Elsevier Science Ltd., Vol. 29, No. 12, December 1999, page 2013, 1999.
3. \*Santhanam, M., \*Cohen, M. D. and \*Olek, J., Reply to the discussion by John Bensted of the review paper “Sulfate Attack Research: Whither Now?”, *Cement and Concrete Research*, Vol. 32, No. 6, page 1001, 2002.
4. \*Santhanam, M., \*Cohen, M. D. and \*Olek, J., Reply to the discussion by William J. Hime of the paper “Modeling the effects of solution temperature and concentration during sulfate attack on cement mortars” by M. Santhanam, M. D. Cohen, J. Olek, *Cement and Concrete Research*, Vol. 32, No. 12, Page 1995, 2002.

#### **Peer-Reviewed Proceedings**

1. \*Olek, J. and Jamroz, Z., “The Application of Steel Fiber Reinforced Concrete for Pavements”, Zastosowanie drutobetonu do nawierzchni, *Proceedings of the XXIV Conference of Polish Academy of Science*, Krynica, pp. 231 - 243, 1978.
2. Broniewski, T., \*Olek, J. and \*Sliwinski, J., “Properties of Cement Pastes, Mortars and Concretes Impregnated with Sulfur”, *Proceedings of the Third International Congress on Polymers in Concrete*, Koriyama, Japan, pp. 1223 - 1234, 1982.
3. Broniewski, T., \*Olek, J. and \*Sliwinski, J., “Cement Materials Suitable for Impregnation with Polymers”, *Proceedings of the Third International Congress on Polymers in Concrete*, Japan, pp. 345 - 359, 1981.
4. Olek, J., “The Properties of Sulfur Impregnated Concrete”, Wlasciwosci betonow cementowych impregnowanych siarka w swietle badan wlasnych, *Proceedings of the XXVII Conference of Polish Academy of Science*, Polish Academy of Science, Krynica, pp. 73 - 81, 1981.
5. Broniewski, T., \*Olek, J. and \*Sliwinski, J., “Influence of Structure-Forming Factors of Concrete on Polymer Impregnation”, *Polymer Concrete*, Third International Congress Proceedings, pp. 1011 - 1022, 1982.
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8. \*Diamond, S. and \*Olek, J., “Some Properties of Contrasting End Members High Calcium Fly Ashes”, *Proceedings of Materials Research Society Symposium on Fly Ash and Coal Conversion By-Products: Characterization, Utilization and Disposal III*, Materials Research Society, Vol. 86, pp. 315 - 324, 1987.
9. \*Diamond, S., Sheng, Q. and \*Olek, J., “Evidence for Minimal Pozzolanic Reaction in Fly Ash Cements During Period of Major Strength Development”, *Proceedings of Materials Research Society Symposium on Fly Ash and Coal Conversion By-Products: Characterization, Utilization and Disposal V*, Materials Research Society, Vol. 137, pp. 437 - 446, 1989.
10. \*Cohen, M. D., \*Olek, J. and Dolch, W. L., “Effects of the Form of Silica Fume on Plastic Shrinkage Cracking of Portland Cement Paste”, *Proceedings of the Third International Conference on Fly Ash, Silica Fume, Slag, and Natural Pozzolans in Concrete*, Supplementary Papers, Trondheim, Norway, American Concrete Institute, pp. 431 - 443, 1989.
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12. Olek, J., “Dynamic/Static Modulus of Elasticity and Poisson's Ratio of Fly Ash Concrete”, *Proceedings of the Fourth International Symposium on Brittle Matrix Composites*, Woodhead Publishing Limited, Cambridge, pp. 425 - 436, 1994.
13. Martin, F. J. and \*Olek, J., “The Nature of Passivity of Reinforcing Steel”, *Materials for the New Millennium, Proceedings of the Materials Engineering Conference*, Vol. 2, American Society of Civil Engineers, New York, NY, USA, pp. 1111 - 1120, 1996.
14. Rao, P. R. and \*Olek J., “Comparison of the Effects of Blended Cementitious Binders on Selected Properties of High-Performance Pastes and Concretes”, *Proceedings of the Fourth International Symposium on Utilization of High-Strength/High-Performance Concrete*, F. de Larrard and R. Lacroix, ed., Laboratoire Central des Ponts et Chaussees, Paris, pp. 143 - 152, 1996.
15. \*Olek, J. and Aquino, W., “Role of High-Reactivity Metakaolin and Silica Fume in Controlling the Effects of ASR in Concrete”, *Special Volume, Materials Science of Concrete*, M. Cohen, S. Mindess, and J. Skalny, ed., The American Ceramic Society, Westerville, OH, pp. 447 - 454, 1998.
16. \*Magee, B. and \*Olek, J., “High-Performance Concrete for Highway Structures: A Generic Overview of Definitions, Mixture Proportions and Performance Levels”, *Proceedings, PCI/FHWA/FIB International Symposium on High Performance Concrete*, Orlando, Florida, September 2000, pp. 74 - 85, 2000.

17. \*Magee, B, \*Olek, J., Ramirez, J., Frosch, R., Smith, J-P. and Nantung, T., “Challenges in the Development of Performance-Related Specifications (PRS) for Concrete Bridge Superstructures - Pilot Project in Indiana”, *Proceedings of the Third International Conference on Concrete Under Severe Conditions: Environment and Loading*, CONSEC 01, Vancouver, BC, Canada, pp. 973 - 981, 2001.
18. \*Rajan, S., \*Olek, J., Robertson, T. L., Galal, K., Nantung, T. and Weiss, J. W., “Analysis of Ultra-Thin Whitetopping Subjected to Slow Moving Loads in an Accelerated Pavement Testing Facility”, *Proceedings of the 7<sup>th</sup> International Conference on Concrete Pavements*, Orlando, Florida, pp. 993 - 1012, 2001.
19. \*Martin, F. J. and \*Olek, J., “The Function of Admixed Corrosion Inhibitors in Steel Reinforced Concrete”, *Proceedings of the 2002 Tri-Services Corrosion Conference*, Air Force Office of Scientific Research, San Antonio, TX January 14 - 18, 2002.
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21. Olek, J., “High Performance Concrete - Review of US Practices”, *Proceedings of the 2<sup>nd</sup> International Conference Dni Betonu: Tradycja i Nowoczesnosc*, Polish Cement, Poland, October 2002, pp. 91 - 112, 2002.
22. \*Santhanam, M., \*Cohen, M. D. and \*Olek, J., “Study of Magnesium Ion Attack on Portland Cement Mortars”, *Proceedings of the 11<sup>th</sup> International Congress on the Chemistry of Cement (ICCC)*, Editors G. Grieve and G. Owens, Durban, South Africa, pp. 1460 - 1473, May 11 - 16, 2003.
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24. \*Neuwald, A., \*Krishnan, A., \*Weiss, W. J., \*Olek, J. and Nantung, T. E., “Curing And Its Relationship To Measured Scaling In Concrete Containing Fly Ash,” submitted to the Transportation Research Board, 2003.
25. \*Graveen, C., \*Weiss, W. J., \*Olek, J. and Nantung, T., “Implications of Maturity and Ultrasonic Wave Speed Measurements on QC/QA for Concrete”, submitted for the Seventh International Symposium on Brittle Matrix Composite, 13 - 15 October, Warsaw, Poland, pp. 379 - 388, 2003.
26. \*Olek, J., \*Rajabipour, F., \*Lu, A., Feng, X., Zander, A. R. and Nantung, T., “Influence of Mixture Composition on the Predicted Service Life and Chloride Transport Properties of Concrete”, in *Proceeding of Advances in Cement and Concrete Conference*, Copper Mountain, CO, August 10 - 14, pp. 313 - 328, 2003.
27. \*Jonsson, J. A., \*Olek, J., Leeman, M. E. and Nantung, T., “Comparison of Different Curing Methods for High-Performance Concrete and the Effects on Strength and Durability”, *Proceedings of the 3<sup>rd</sup> PCI/FHWA International Symposium on High Performance Concrete*, Orlando, FL, October 19 - 22, 2003.

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29. \*Newbolds, S., \*Galal, K., \*Olek, J., \*Weiss, W. J. and \*Nantung, T “Analysis of Ultra-Thin Whitetopping over Composite Pavement Section Using Large-Scale Accelerated Pavement Testing”, International Conference on Highway Pavement (IHP) Data, Analysis and Mechanistic Design Applications, September 7 - 10, Columbus, Ohio, 2003.
30. \*Qi, C., \*Weiss, W. J. and \*Olek, J., “Image Analysis of Plastic Shrinkage Cracking in High Strength Concrete Containing Hybrid Fiber Reinforcement”, International Symposium on Celebrating Concrete: People and Practice, University of Dundee, Dundee, U. K., September 3 – 4, pp. 209-218, 2003.
31. \*Neithalath, N., \*Weiss, W. J. and \*Olek, J., “Acoustically Efficient Concretes Through Engineered Pore Structure”, submitted for *Special Publication* of the American Concrete Institute (ACI), 2003.
32. \*Shah, A., \*Olek, J. and McDaniel, R., “Influence of Binder and Mixture Properties on Thermal Cracking of AC Pavements”, 5<sup>th</sup> International RILEM (*Réunion Internationale des Laboratoires et Experts des Matériaux, systèmes de construction et ouvrages*) Conference on Cracking in Pavements, Limoges, France, May 5 - 8, pp. 241-248, 2004.
33. \*Neithalath, N., \*Weiss, W. J. and \*Olek, J., “Improving the Acoustic Absorption of Enhanced Porosity Concrete with Fiber Reinforcement” International Symposium on Advances in Concrete through Science and Engineering (RILEM), March 2004.
34. \*Yu, X., \*Drnevich, V. and \*Olek, J., “Predicting Strength Development of Concrete by Time Domain Reflectometry”, International Symposium on Advances in Concrete through Science and Engineering (RILEM), March 2004.
35. \*Yu, X., \*Drnevich, V. and \*Olek, J., “Time Domain Reflectometry for Measuring Water-Cement Ratio of Concrete”, International Symposium on Advances in Concrete through Science and Engineering (RILEM), March 2004.
36. \*El-Sharief, A., \*Cohen, M.D. and \*Olek, J., “Influence of Aggregate Type and Gradation on the Microstructure and Durability Properties of Portland Cement Mortar and Concrete”, RILEM Proceedings 36, pp. 213-222, 2004.
37. Neithalath, N., Weiss, W. J. and Olek, J., “Acoustic Absorption Behavior of Fiber Reinforced Enhanced Porosity Concrete”, Conference on Fiber Composites, High-Performance Concretes, and Smart Materials organized by International Center for Fiber Reinforced Concrete (ICFRC), Chennai, India, January 2004.
38. \*Newbolds, S., \*Galal, K., \*Olek, J. and Nantung, T., “Behavior of UTW over Composite Pavements Exposed to Full Scale Accelerated Loading”, International Conference on Best Practices for Ultrathin and Thin Whitetoppings, Denver, CO, April 13 to 14, 2005.

39. \*Weiss, J. and \*Olek, J.," An overview of recent applications of acoustic emission to the study of damage development in portland cement concrete materials, Proceedings of the XXII Conference on Structural Failures, Szczecin-Miedzyzdroje, Poland, May 17-20, 2005, pp. 70-83.
40. \*Yang, Z., \*Weiss, W. J., \*Olek, J. and Nantung, T., "Using Acoustic Emission for the Detection of Damage Caused by Tensile Loading and its Impact on the Freeze-Thaw Resistance of Concrete", Proceedings of the CONMAT'05, Third International Conference on Construction Materials: Performance, Innovations and Structural Implications, Vancouver, Canada, August 22-24, 2005.
41. \*Yang, Z., \*Weiss, W. J., \*Olek, J. and Nantung, T., "Assessing Sorptivity, Air Content, and Strength of Portland Cement Concrete Pavements in Indiana", Submitted for the 8th International Conference on Concrete Pavements, Colorado Springs, Co, August 14-18, 2005.
42. \*Mehta, J., \*Olek, J., \*Weiss, W. J. and Nantung, T., "Effect of Surface Evaporation and Slab Thickness on the Scaling Resistance of Concrete Containing Fly Ash", Proceedings of the 8th International Conference on Concrete Pavements, Colorado Springs, Co, August 14-18, 2005.
43. \*Neithalath, N., \*Garcia, R., \*Weiss, W. J. and \*Olek, J., "Tire-Pavement Interaction Noise: Recent Research on Concrete Pavement Surface Type and Texture", Proceedings of the 8th International Conference on Concrete Pavements, Colorado Springs, Co, August 14-18, 2005.
44. \*Rangaraju, P.R., \*Sompura, K.R., \*Olek, J., \*Diamond, S. and \*Lovell, J., "Potential for Development of Alkali-Silica Reaction (ASR) in the Presence of Airfield Deicing Chemicals", 8th International Conference on Concrete Pavements, Colorado Springs, Co, August 14-18, 2005.
45. Newbolds, S.A., \*Galal, K.A., \*Olek, J. and \*Nantung, T., "Evaluation of Design Approaches for Ultra-Thin Whitetopping over Composite Pavement Section under Accelerated Loading", Proceedings of the 8th International Conference on Concrete Pavements, Colorado Springs, Co, August 14-18, 2005.
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47. \*Deshpande, Y.S. and \*Olek, J., Effect Of Mixing Equipment And Mixing Sequence on Rapid -Setting Self-Consolidating Concrete, *Proceedings of the Second North American Conference on the Design and Use of Self-Consolidating Concrete and the Fourth International RILEM Symposium on Self-Compacting Concrete*, Hanley Wood Publications, Ed. Shah, S.P., Chicago, Oct-30 to Nov 2, 2005, pp 897-904.
48. \*Rangaraju, P.R., \*Sompura, K., and \*Olek, J., "An Investigation into Deicer-Induced ASR Distress in Concrete", Proc. Int. Symp. "Brittle Matrix Composites 8, A.M. Brandt, V.C. Li and I.H. Marshall, eds., Warsaw, October 23-25, 2006, ZTUREK RSI and Woodhead Publ., Warsaw, 2006, pp. 373-385.



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50. [\\*Radlinski, M.](#), [\\*Olek, J.](#), [\\*Kim, H.](#), Nantung, T. and Zander, A., "Preliminary Optimization Analysis of Ternary Mixtures fro Bridge Decks", *Proc. Int. Symp. "Brittle Matrix Composites 8*, A.M. Brandt, V.C. Li and I.H. Marshall, eds., Warsaw, October 23-25, 2006, ZTUREK RSI and Woodhead Publ., Warsaw, 2006, pp. 161-174.
51. [\\*Rangaraju, P.R.](#), [\\*Sompura, K.](#), [\\*Desai, J.](#), and [\\*Olek, J.](#), "Potential for Potassium Acetate Deicer to Induce ASR in Concrete and its Mitigation", *Proceedings of the 2006 Airfield and Highway Pavement Specialty Conference, Meeting Today's Challenges with Emerging Technologies*, Imad L. Al-Qadi - Editor, April 30 – May 3, 2006, Atlanta, Georgia, USA, ASCE, pp. 683-694.
52. [\\*Deshpande, Y.S.](#) and [\\*Olek, J.](#), (2006) Development of Rapid-Setting Self-Consolidating Concrete Using Small Size Aggregate, *Proceedings of the 2nd International RILEM Symposium on Advances in Concrete through Science and Engineering*, Sept 11-13, 2006, Québec, Canada,
53. [\\*Qi, C.](#), [\\*Weiss, W. J.](#), Wang, H., and [\\*Olek, J.](#) "Quantifying the Impact of Plastic Shrinkage Cracking in the Corrosion of Reinforced Concrete to Improve Service Life Prediction," *Proceedings of the 6th ISCC and CANMET ACI International Symposium on Concrete Technology for Sustainable Development*, September 19-22, 2006 Xi'an China, pp. 1325-1335
54. [\\*Peethampan, S.](#), [\\*Olek, J.](#), and Helfrich, K. E. (2006) "Evaluation of the Engineering Properties of Cement Kiln Dust (CKD) Modified Kaolinite Clay." *Proceedings, the Twenty-First International Conference on Solid Waste Technology and Management*, March 26-29, 2006, Philadelphia, Widener University, PA, pp. 997-1006.

## Refereed conference summaries or abstracts.

None

## Other submitted publications

1. \*Martin, F. J., \*Olek, J. and Natishan, P. M., “Simulating Linear Polarization Curves from the Electrochemical Impedance Spectrum”, submitted for publication to *Journal of the Electrochemical Society*, October 2002.
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None

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None

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None

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#### **Publications in Popular Press/Magazines**

1. Olek, J., “Asphalt Industry Must Face Superpave Challenge”, Invited opinion column, *Rock Products*, Vol. 101, No. 12, December 1998, p.14, 1998.

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12. Olek, J., “High Performance Concrete - Review of US Practices”, 2<sup>nd</sup> International Conference organized by Polish Cement and Lime Association, Szczyrk, Poland, October 2002.
13. Olek, J., “Highlights of Research Activities of the Construction Materials Research Group at Purdue University, USA”, seminar at the Eduardo Torroja Building Research Institute, ICCET-CSIC, Madrid, Spain, December 2002.
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15. Olek, J., “Pozzolanic Materials”, 10<sup>th</sup> Annual Faculty Enhancement Workshop on Teaching the Materials Science, Engineering and Field Aspects of Concrete, University of Texas, Austin, Texas, June 2003.

#### **Planned or Anticipated Publications**

1. [\\*Peethamparan, S., \\*Olek, J., “Mechanism of cement kiln dust \(CKD\)-clay stabilization”](#), paper in preparation to be submitted to the [Cement and Concrete Research Journal](#)
2. [Deshpande, Y.S and Olek, J., \(2007\) Development of Rapid-Setting Self-Consolidating Concrete for Infrastructure Repair. \(To be submitted to ACI Materials Journal\)](#)

3. Deshpande, Y.S and Olek, J., (2007) Analysis of Rapid Setting Cements for Dowel Bar Retrofit Techniques (*in preparation*).

## ENGAGEMENT/TECHNOLOGY TRANSFER

### Patents submitted

Patent disclosure submitted for review to the office of Technology Commercialization, Purdue University, Fall 2003. Authors: J. Jonsson, J. Olek, S. Newbolds. The subject of the patent disclosure is "Temperature-Matched Curing of Concrete Specimens".

### Other Major Technology Transfer Activities

1. Olek, J., "HPC Research in Indiana", presented at HPC showcase in Cincinnati, OH, March 1999.
2. Olek, J. and \*Martin, F. J., "Effects of Admixed Inhibitors on Corrosion Processes of Reinforcing Steel in Cement Pastes", October 1999, ABCM/NIST meeting.
3. Weiss, W. J., \*Moses, S. J., \*Qi, C., Shah, S. P. and \*Olek, J., "Blended Fiber Reinforcement: For Improving the Cracking Resistance of Concrete Pavements, Slabs, Bridge Decks, and Industrial Floors", ACBM Semi-Annual Meeting, March 8, 2000, Evanston, IL.
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Electrochemical Impedance Spectrum”, presented at the 201 Meeting of the Electrochemical Society, Philadelphia, PA, May 12 - 17, 2002.

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24. Qi, C., Hossain, A. B., Kayir, H., Kim, B., \*Weiss, W. J., Olek, J. and Shah, S. P., “Blended Fiber Reinforcement”, ACBM Semi-Annual Meeting March 2002, Evanston IL
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33. \*Neithalath, N., \*Weiss, W. J. and \*Olek, J., “Characterizing Enhanced Porosity Concrete Using Electrical Impedance to Predict Hydraulic and Acoustic Performance”, presented at the American Concrete Institute Fall Meeting, Boston, MA, September 2003.