



Index to Volume 32

2002

Volume 32, Number 1

January

PAPERS

- J.J. Chen, D. Zampini, A. Walliser:** High-pressure epoxy-impregnated cementitious materials for microstructure characterization 1
- M.K. Mironova, P.N. Gospodinov, R.F. Kazandjiev:** The effect of liquid push out of the material capillaries under sulfate ion diffusion in cement composites 9
- S. Long, C. Yan, J. Dong:** Microwave-promoted burning of Portland cement clinker 17
- Y.-S. Yoon, J.-P. Won, S.-K. Woo, Y.-C. Song:** Enhanced durability performance of fly ash concrete for concrete-faced rockfill dam application 23
- C. Miao, R. Mu, Q. Tian, W. Sun:** Effect of sulfate solution on the frost resistance of concrete with and without steel fiber reinforcement 31
- R. Boncukcuoğlu, M.T. Yilmaz, M.M. Kocakerim, V. Tosunoğlu:** Utilization of trommel sieve waste as an additive in Portland cement production 35
- J.M. Gao, C.X. Qian, B. Wang, K. Morino:** Experimental study on properties of polymer-modified cement mortars with silica fume 41
- M. Sun, Q. Liu, Z. Li, E. Wang:** Electrical emission in mortar under low compressive loading 47
- Y. Kerui, Z. Caiwen, L. Zhigang:** The influence of calcium lignosulphonate–sodium bicarbonate on the status of ettringite crystallization in fly ash cement paste 51
- I. Tanaka, M. Koishi, K. Shinohara:** A study on the process for formation of spherical cement through an examination of the changes of powder properties and electrical charges of the cement and its constituent materials during surface modification 57
- F. Méducin, C. Noik, A. Rivereau, H. Zanni:** Complementary analyses of a tricalcium silicate sample hydrated at high pressure and temperature 65
- Y. Shi, I. Matsui, N. Feng:** Effect of compound mineral powders on workability and rheological property of HPC 71
- W. Prince, M. Edwards-Lajnef, P.-C. Aïtcin:** Interaction between ettringite and a polynaphthalene sulfonate superplasticizer in a cementitious paste 79
- E. Robens, B. Benzler, G. Büchel, H. Reichert, K. Schumacher:** Investigation of characterizing methods for the microstructure of cement 87
- A.B. Yilmaz, İ. Dehri, M. Erbil:** Effects of ammonium chloride salt added to mixing water on concrete and reinforced concrete subject to atmospheric corrosion 91
- C. Porteneuve, J.-P. Korb, D. Petit, H. Zanni:** Structure–texture correlation in ultra-high-performance concrete: A nuclear magnetic resonance study 97

- J. Roncero, S. Valls, R. Gettu:** Study of the influence of superplasticizers on the hydration of cement paste using nuclear magnetic resonance and X-ray diffraction techniques **103**
- A. Çolak:** The long-term durability performance of gypsum–portland cement–natural pozzolan blends **109**
- J.C. Subauste, I. Odler:** Stresses generated in expansive reactions of cementitious systems **117**
- M.I. Khan, C.J. Lynsdale:** Strength, permeability, and carbonation of high-performance concrete **123**
- M.F. Rojas, J. Cabrera:** The effect of temperature on the hydration rate and stability of the hydration phases of metakaolin–lime–water systems **133**
- M.K. Kassir, M. Ghosn:** Chloride-induced corrosion of reinforced concrete bridge decks **139**
- B. Pacewska, M. Bukowska, I. Wilińska, M. Swat:** Modification of the properties of concrete by a new pozzolan: A waste catalyst from the catalytic process in a fluidized bed **145**
- E. Soudée, J. Péra:** Influence of magnesia surface on the setting time of magnesia–phosphate cement **153**
- J.-S. Ryu, N. Otsuki:** Crack closure of reinforced concrete by electrodeposition technique **159**
- Q. Yang, S. Zhang, X. Wu:** Deicer-scaling resistance of phosphate cement-based binder for rapid repair of concrete **165**

BOOK REVIEW

- I. Odler:** Zement—Grundlagen der Herstellung und Verwendung (Cement—Fundamentals of Manufacture and Use); by Friedrich W. Locher **169**

NEWS ITEMS

171

2002

Volume 32, Number 2

February

PAPERS

- J. Yin, S. Zhou, Y. Xie, Y. Chen, Q. Yan:** Investigation on compounding and application of C80–C100 high-performance concrete **173**
- F.T. Olorunsogo, N. Padayachee:** Performance of recycled aggregate concrete monitored by durability indexes **179**
- F. Kreppelt, M. Weibel, D. Zampini, M. Romer:** Influence of solution chemistry on the hydration of polished clinker surfaces—a study of different types of polycarboxylic acid-based admixtures **187**
- A.A. Adedeji:** Estimation of service life of coated brickwork mortar joint **199**
- C. Vipulanandan, J. Liu:** Glass-fiber mat-reinforced epoxy coating for concrete in sulfuric acid environment **205**
- T. Bakharev, J.G. Sanjayan, Y.-B. Cheng:** Sulfate attack on alkali-activated slag concrete **211**
- C.C. Yang, S.W. Cho, R. Huang:** The relationship between charged passed and the chloride-ion concentration in concrete using steady-state chloride migration test **217**

- V. Ducman, A. Mladenovič, J.S. Šuput**: Lightweight aggregate based on waste glass and its alkali–silica reactivity **223**
- I. Kula, A. Olgun, V. Sevinc, Y. Erdogan**: An investigation on the use of tincal ore waste, fly ash, and coal bottom ash as Portland cement replacement materials **227**
- E.P. Kearsley, P.J. Wainwright**: The effect of porosity on the strength of foamed concrete **233**
- E.P. Kearsley, P.J. Wainwright**: Ash content for optimum strength of foamed concrete **241**
- G.A. Rao, B.K. Raghu Prasad**: Fracture energy and softening behavior of high-strength concrete **247**
- G.A. Rao, B.K. Raghu Prasad**: Influence of the roughness of aggregate surface on the interface bond strength **253**
- W. Morris, M. Vázquez**: A migrating corrosion inhibitor evaluated in concrete containing various contents of admixed chlorides **259**
- C. Famy, K.L. Scrivener, A. Atkinson, A.R. Brough**: Effects of an early or a late heat treatment on the microstructure and composition of inner C-S-H products of Portland cement mortars **269**
- J. Bisschop, J.G.M. van Mier**: How to study drying shrinkage microcracking in cement-based materials using optical and scanning electron microscopy? **279**
- M.C. Garci Juenger, H.M. Jennings**: Examining the relationship between the microstructure of calcium silicate hydrate and drying shrinkage of cement pastes **289**
- N.J. Saikia, P. Sengupta, P.K. Gogoi, P.C. Borthakur**: Hydration behaviour of lime–co-calcined kaolin–petroleum effluent treatment plant sludge **297**
- S. Rémond, P. Pimienta, D.P. Bentz**: Effects of the incorporation of Municipal Solid Waste Incineration fly ash in cement pastes and mortars: I. Experimental study **303**
- P.K. Mandal, T.K. Mandal**: Anion water in gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) and hemihydrate ($\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$) **313**

COMMUNICATIONS

- E. Alonso, L. Martínez, W. Martínez, L. Villaseñor**: Mechanical properties of concrete elaborated with igneous aggregates **317**
- X. Lu, C. Li, H. Zhang**: Relationship between the free and total chloride diffusivity in concrete **323**

NEWS ITEMS

327

2002

Volume 32, Number 3

March

PAPERS

- J.A. Rossignolo, M.V.C. Agnesini**: Mechanical properties of polymer-modified lightweight aggregate concrete **329**
- S. Wen, D.D.L. Chung**: Piezoelectric cement-based materials with large coupling and voltage coefficients **335**
- M.H. Shehata, M.D.A. Thomas**: Use of ternary blends containing silica fume and fly ash to suppress expansion due to alkali–silica reaction in concrete **341**

K.R. Wu, A. Yan, W. Yao, D. Zhang: The influence of RPCA on the strength and fracture toughness of HPC	351
Z. Pan, L. Cheng, Y. Lu, N. Yang: Hydration products of alkali-activated slag–red mud cementitious material	357
B. Zhang, N. Bicanic, C.J. Pearce, D.V. Phillips: Relationship between brittleness and moisture loss of concrete exposed to high temperatures	363
A.H. Memon, S.S. Radin, M.F.M. Zain, J.-F. Trottier: Effects of mineral and chemical admixtures on high-strength concrete in seawater	373
J. Cao, D.D.L. Chung: Defect dynamics of cement mortar under repeated loading, studied by electrical resistivity measurement	379
N.B. Singh, V.D. Singh, S. Rai, S. Chaturvedi: Effect of lignosulfonate, calcium chloride and their mixture on the hydration of RHA-blended portland cement	387
M.C. Garcia Juenger, H.M. Jennings: New insights into the effects of sugar on the hydration - and micro-structure of cement pastes	393
W. Kurdowski: Role of delayed release of sulphates from clinker in DEF	401
S.A. FitzGerald, J.J. Thomas, D.A. Neumann, R.A. Livingston: A neutron scattering study of the role of diffusion in the hydration of tricalcium silicate	409
J. Zhang, V.C. Li: Monotonic and fatigue performance in bending of fiber-reinforced engineered cementitious composite in overlay system	415
K.-R. Wu, D. Zhang, J.-M. Song: Properties of polymer-modified cement mortar using pre-enveloping method	425
L. Wang, H. Ai: Calculation of sand–aggregate ratio and water dosage of ordinary concrete	431
M. Frías, M.I.S. de Rojas: Total and soluble chromium, nickel and cobalt content in the main materials used in the manufacturing of Spanish commercial cements	435
Ö. Kırca, L. Turanlı, T.Y. Erdoğan: Effects of retempering on consistency and comprehensive strength of concrete subjected to prolonged mixing	441
M.A. Helal: Effect of curing time on the physico-mechanical characteristics of the hardened cement pastes containing limestone	447
M.J. McCarthy, A. Giannakou: In-situ performance of CPF concrete in a coastal environment	451
C. Shi: Characteristics and cementitious properties of ladle slag fines from steel production	459
K. Kolovos, S. Tsivilis, G. Kakali: The effect of foreign ions on the reactivity of the $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3\text{-Fe}_2\text{O}_3$ system: Part II: Cations	463
R. Boncukcuoğlu, M.T. Yılmaz, M.M. Kocakerim, V. Tosunoğlu: Utilization of borogypsum as set retarder in Portland cement production	471
Y. Xie, B. Liu, J. Yin, S. Zhou: Optimum mix parameters of high-strength self-compacting concrete with ultrapulverized fly ash	477
J.C. Nadeau: Water–cement ratio gradients in mortars and corresponding effective elastic properties	481
M.A. Peach-Canul, P. Castro: Corrosion measurements of steel reinforcement in concrete exposed to a tropical marine atmosphere	491

DISCUSSION

- J. Bensted, J. Munn:** A discussion of the paper "Micro-Raman spectroscopy of thaumasite" by A.R. Brough and A. Atkinson 499

BOOK REVIEWS

- G.M. Idorn:** Calcium hydroxide in concrete. Materials Science of Concrete, Special Volume; by Jan Skalný and Juraj Gebauer 501
- S.L. Sarkar:** Fundamentals of High-Performance Concrete (Second Edition); by Dr. Edward G. Nawy and P.E. CEng 502

NEWS ITEMS

503

2002

Volume 32, Number 4

April

PAPERS

- D.W.S. Ho, A.M.M. Sheinn, C.C. Ng, C.T. Tam:** The use of quarry dust for SCC applications 505
- J.-P. Rapin, G. Renaudin, E. Elkaim, M. Francois:** Structural transition of Friedel's salt $3\text{CaO}\cdot\text{Al}_2\text{O}_3\cdot\text{CaCl}_2\cdot 10\text{H}_2\text{O}$ studied by synchrotron powder diffraction 513
- T. Pheeraphan, L. Cayliani, M.I. Dumangas Jr., P. Nimityongskul:** Prediction of later-age compressive strength of normal concrete based on the accelerated strength of concrete cured with microwave energy 521
- Z.P. Bažant, E. Becq-Giraudon:** Statistical prediction of fracture parameters of concrete and implications for choice of testing standard 529
- D. Sohn, D.L. Johnson:** Hardening process of cement-based materials monitored by the instrumented penetration test. Part 1: Neat cement paste and mortar 557
- S. Rémond, D.P. Bentz, P. Pimienta:** Effects of the incorporation of Municipal Solid Waste Incineration fly ash in cement pastes and mortars. II: Modeling 565
- W.K.W. Lee, J.S.J. van Deventer:** The effect of ionic contaminants on the early-age properties of alkali-activated fly ash-based cements 577
- M. Santhanam, M.D. Cohen, J. Olek:** Modeling the effects of solution temperature and concentration during sulfate attack on cement mortars 585
- G. Schmidt, E. Schlegel:** Rheological characterization of C-S-H phases–water suspensions 593
- G. Long, X. Wang, Y. Xie:** Very-high-performance concrete with ultrafine powders 601
- A.K. Patnaik, I. Patnaikuni:** Correlation of strength of 75 mm diameter and 100 mm diameter cylinders for high strength concrete 607
- Q. Niu, N. Feng, J. Yang, X. Zheng:** Effect of superfine slag powder on cement properties 615
- N. Feng, X. Feng, T. Hao, F. Xing:** Effect of ultrafine mineral powder on the charge passed of the concrete 623
- A.G. Türkmenoğlu, A. Tankut:** Use of tuffs from central Turkey as admixture in pozzolanic cements: Assessment of their petrographical properties 629
- K.S. Chia, M.-H. Zhang:** Water permeability and chloride penetrability of high-strength lightweight aggregate concrete 639

A.K. Prodjosantoso, B.J. Kennedy, B.A. Hunter: Phase separation induced by hydration of the mixed Ca/Sr aluminates $\text{Ca}_{3-x}\text{Sr}_x\text{Al}_2\text{O}_6$: A crystallographic study	647
J.J. Chang: A study of the bond degradation of rebar due to cathodic protection current	657
C. Paglia, F. Wombacher, H. Böhni, M. Sommer: An evaluation of the sulfate resistance of cementitious material accelerated with alkali-free and alkaline admixtures: Laboratory vs. field	665
NEWS ITEMS	673

2002

Volume 32, Number 5

May

PAPERS

N.E. Hipedinger, A.N. Scian, E.F. Aglietti: Magnesia–phosphate bond for cold-setting cordierite-based refractories	675
P. Mira, V.G. Papadakis, S. Tsimas: Effect of lime putty addition on structural and durability properties of concrete	683
A. Carles-Gibergues, M. Cyr: Interpretation of expansion curves of concrete subjected to accelerated alkali–aggregate reaction (AAR) tests	691
A. Denis, A. Attar, D. Breysse, J.J. Chauvin: Effect of coarse aggregate on the workability of sandcrete	701
R. Talero: Kinetochemical and morphological differentiation of ettringites by the Le Chatelier–Anstett test	707
S.J. Barnett, D.E. Macphee, E.E. Lachowski, N.J. Crammond: XRD, EDX and IR analysis of solid solutions between thaumasite and ettringite	719
A.W. Harris, M.C. Manning, W.M. Tearle, C.J. Tweed: Testing of models of the dissolution of cements—leaching of synthetic CSH gels	731
Y. Yang: Methods study on dispersion of fibers in CFRC	747
C.D. Atiş: Heat evolution of high-volume fly ash concrete	751
C.B. Shin, E.K. Kim: Modeling of chloride ion ingress in coastal concrete	757
G. Qian, M. Deng, M. Tang: Expansion of siliceous and dolomitic aggregates in lithium hydroxide solution	763
C. Giampaolo, S. Lo Mastro, A. Poletti, R. Pomi, P. Sirini: Acid neutralisation capacity and hydration behaviour of incineration bottom ash–Portland cement mixtures	769
N. Su, B. Miao, F.-S. Liu: Effect of wash water and underground water on properties of concrete	777
B. Mu, C. Meyer, S. Shimanovich: Improving the interface bond between fiber mesh and cementitious matrix	783
H. Shi, Y. Zhao, W. Li: Effects of temperature on the hydration characteristics of free lime	789
E.W. Hansen, H.C. Gran: FLR technique: Exchange kinetics of ethanol/fluorescent dye with water in water-saturated cement paste examined by ^1H - and ^2H -NMR	795
M.J. Shannag: High-performance cementitious grouts for structural repair	803
M.S. Cülfik, T. Özturan: Effect of elevated temperatures on the residual mechanical properties of high-performance mortar	809

COMMUNICATIONS

- J. Cao, D.D.L. Chung:** Effect of strain rate on cement mortar under compression, studied by electrical resistivity measurement **817**
- S. Wen, D.D.L. Chung:** Origin of the thermoelectric behavior of steel fiber cement paste **821**
- D. Zhang, Z. Li, K.-R. Wu:** 2-2 Piezoelectric cement matrix composite: Part II. Actuator effect **825**

DISCUSSIONS

- J.J. Beaudoin:** A discussion on, "The use of nitrogen adsorption to assess the microstructure of cement paste" by M.C.G. Juenger and H.M. Jennings **831**
- M.C.G. Juenger, H.M. Jennings:** Reply to the discussion on "The use of nitrogen adsorption to assess the microstructure of cement paste" by M.C.G. Juenger and H.M. Jennings **833**

NEWS ITEMS**835**

2002

Volume 32, Number 6

June

PAPERS

- M. Pei, W. Kim, W. Hyung, A.J. Ango, Y. Soh:** Effects of emulsifiers on properties of poly(styrene–butyl acrylate) latex-modified mortars **837**
- J.-M. Tulliani, L. Montanaro, A. Negro, M. Collepardi:** Sulfate attack of concrete building foundations induced by sewage waters **843**
- Z. Xu, X. Lan, M. Deng, M. Tang:** A new accelerated method for determining the potential alkali-carbonate reactivity **851**
- N.M. Al-Akhras, B.A. Abu-Alfoul:** Effect of wheat straw ash on mechanical properties of autoclaved mortar **859**
- A.R. Brough, A. Atkinson:** Sodium silicate-based, alkali-activated slag mortars Part I. Strength, hydration and microstructure **865**
- M. Cabeza, P. Merino, A. Miranda, X.R. Nóvoa, I. Sanchez:** Impedance spectroscopy study of hardened Portland cement paste **881**
- K.O. Ampadu, K. Torii:** Chloride ingress and steel corrosion in cement mortars incorporating low-quality fly ashes **893**
- J.A. Stegemann, N.R. Buenfeld:** Prediction of unconfined strength of cement paste with pure metal compound additions **903**
- M. Santhanam, M.D. Cohen, J. Olek:** Mechanism of sulfate attack: A fresh look Part I: Summary of experimental results **915**
- A.M. Alshamsi, H.D.A. Imran:** Development of a permeability apparatus for concrete and mortar **923**
- K. Masaki, I. Maki:** Effect of prolonged heating at elevated temperatures on the phase composition and textures of portland cement clinker **931**

A. Steffens, D. Dinkler, H. Ahrens: Modeling carbonation for corrosion risk prediction of concrete structures	935
T. Vuk, R. Gabrovšek, V. Kaučič: The influence of mineral admixtures on sulfate resistance of limestone cement pastes aged in cold MgSO_4 solution	943
A.H. Bushlaibi, A.M. Alshamsi: Efficiency of curing on partially exposed high-strength concrete in hot climate	949
B.F. Johannesson: Prestudy on diffusion and transient condensation of water vapor in cement mortar	955
P.J. Williams, J.J. Biernacki, L.R. Walker, H.M. Meyer, C.J. Rawn, J. Bai: Microanalysis of alkali-activated fly ash–CH pastes	963
O.M. Jensen, P.F. Hansen: Water-entrained cement-based materials II. Experimental observations	973

COMMUNICATIONS

S. Zhong, M. Shi, Z. Chen: A study of polymer-modified mortars by the AC impedance technique	979
S. Zhong, M. Shi, Z. Chen: The AC response of polymer-coated mortar specimens	983

DISCUSSIONS

G.M. Idorn: A discussion of the review paper “Delayed ettringite formation” by H.F.W. Taylor, C. Famy and K.L. Scrivener	989
W.G. Hime: Comment on the “Reply to the discussion by S. Chatterji of the paper ‘Delayed ettringite formation in heat-cured Portland cement mortars’ by Yang, Lawrence, Lynsdale and Sharp”	991
R. Yang, C.J. Lynsdale, J.H. Sharp: Reply to the discussion by W. Hime of the “Reply to the discussion by S. Chatterji of the paper: Delayed ettringite formation in heat-cured Portland cement and mortars”	993
J. Bensted: A discussion of the review paper “Sulphate attack research—whither now?” by M. Santhanam, M.D. Cohen and J. Olek	995
M. Santhanam, M.D. Cohen, J. Olek: Reply to the discussion by John Bensted of the review paper “Sulfate attack research: whither now”	1001
B. Mather: A discussion of the review paper “Deteriorated pavements due to the alkali–silica reaction: A petrographic study of three cases in Argentina” by S.A. Marfil and P.J. Maiza	1003
S.A. Marfil, P.J. Maiza: Reply to the discussion of “Deteriorated pavements due to the alkali–silica reaction: A petrographic study of three cases in Argentina”	1005

NEWS ITEMS

1007

PAPERS

S.K. Handaoo, S. Agarwal, S.K. Agarwal: Physicochemical, mineralogical, and morphological characteristics of concrete exposed to elevated temperatures	1009
---	-------------

A. Fernández-Jiménez, F. Puertas: The alkali–silica reaction in alkali-activated granulated slag mortars with reactive aggregate	1019
D.J. Corr, J. Lebourgeois, P.J.M. Monteiro, S.J. Bastacky, E.M. Gartner: Air void morphology in fresh cement pastes	1025
M. Singh: Treating waste phosphogypsum for cement and plaster manufacture	1033
K. Masaki, M. Suzuki, I. Maki: Burning and nodulization process of clinker in the rotary kiln as viewed from the fine textures of the constituent minerals	1039
B.W. Langan, K. Weng, M.A. Ward: Effect of silica fume and fly ash on heat of hydration of Portland cement	1045
Y. Yuan, Z.L. Wan: Prediction of cracking within early-age concrete due to thermal, drying and creep behavior	1053
R. Mu, C. Miao, X. Luo, W. Sun: Interaction between loading, freeze–thaw cycles, and chloride salt attack of concrete with and without steel fiber reinforcement	1061
F. de J. Cano, T.W. Bremner, R.P. McGregor, B.J. Balcom: Magnetic resonance imaging of ^1H , ^{23}Na , and ^{35}Cl penetration in Portland cement mortar	1067
S. Codes, I. Odler: Initial hydration of tricalcium silicate as studied by secondary neutrals mass spectrometry I. Sample preparation and calibration	1071
I. Odler, S. Cordes: Initial hydration of tricalcium silicate as studied by secondary neutrals mass spectrometry II. Results and discussion	1077
J.-K. Kim, S.H. Han, Y.C. Song: Effect of temperature and aging on the mechanical properties of concrete Part I. Experimental results	1087
J.-K. Kim, S.H. Han, S.K. Park: Effect of temperature and aging on the mechanical properties of concrete Part II. Prediction model	1095
S.-Y. Hong, F.P. Glasser: Alkali sorption by C-S-H and C-A-S-H gels Part II. Role of alumina	1101
M.A. Climent, G. de Vera, J.F. López, E. Viqueira, C. Andrade: A test method for measuring chloride diffusion coefficients through nonsaturated concrete Part I. The instantaneous plane source diffusion case	1113
X. Liu, Y. Li, N. Zhang: Influence of MgO on the formation of Ca_3SiO_5 and $3\text{CaO}\cdot 3\text{A}1_2\text{O}_3\cdot \text{CaSO}_4$ minerals in alite–sulphoaluminate cement	1125
H. Temiz, A.Y. Karakeçi: An investigation on microstructure of cement paste containing fly ash and silica fume	1131
M. Benzaazoua, T. Belem, B. Bussiére: Chemical factors that influence the performance of mine sulphidic paste backfill	1133
D. Li, Z. Xu, Z. Luo, Z. Pan, L. Cheng: The activation and hydration of glassy cementitious materials	1145
X. Fu, Z. Wang, W. Tao, C. Yang, W. Hou, Y. Dong, X. Wu: Studies on blended cement with a large amount of fly ash	1153
I. Tanaka, M. Koishi, K. Shinohara: Evaluation of the wettability of spherical cement particle surfaces using penetration rate method	1161
T. Staněk, P. Sulovský: The influence of the alite polymorphism on the strength of the Portland cement	1169
ERRATUM	1177
NEWS ITEMS	1179

PAPERS

- D. Krizan, B. Zivanovic:** Effects of dosage and modulus of water glass on early hydration of alkali–slag cements 1181
- T.J. Kirkpatrick, R.E. Weyers, M.M. Sprinkel, C.M. Anderson-Cook:** Impact of specification changes on chloride-induced corrosion service life of bridge decks 1189
- D. Bulteel, E. Garcia-Diaz, C. Vernet, H. Zanni:** Alkali–silica reaction: A method to quantify the reaction degree 1199
- E. Wirquin, M. Broda, B. Duthoit:** Determination of the apparent activation energy of one concrete by calorimetric and mechanical means: Influence of a superplasticizer 1207
- M.-A. Bérubé, J. Duchesne, J.F. Dorion, M. Rivest:** Laboratory assessment of alkali contribution by aggregates to concrete and application to concrete structures affected by alkali–silica reactivity 1215
- B. Persson:** Eight-year exploration of shrinkage in high-performance concrete 1229
- P.J. Tikalsky, D. Roy, B. Scheetz, T. Krize:** Redefining cement characteristics for sulfate-resistant Portland cement 1239
- İ. Akın Altun, İ. Yılmaz:** Study on steel furnace slags with high MgO as additive in Portland cement 1247
- M.F.M. Zain, H.B. Mahmud, A. Ilham, M. Faizal:** Prediction of splitting tensile strength of high-performance concrete 1251
- P. Rivard, J.-P. Ollivier, G. Ballivy:** Characterization of the ASR rim: Application to the Postdam sandstone 1259
- M. Georgescu, A. Puri, M. Coarna, G. Voicu, D. Voinitchi:** Thermoanalytical and infrared spectroscopy investigations of some mineral pastes containing organic polymers 1269
- L. D'Aloia, G. Chanvillard:** Determining the “apparent” activation energy of concrete E_a —numerical simulations of the heat of hydration of cement 1277
- Z. Hashin, P.J.M. Monteiro:** An inverse method to determine the elastic properties of the interphase between the aggregate and the cement paste 1291
- J.M.V. Gómez-Soberón:** Porosity of recycled concrete with substitution of recycled concrete aggregate: An experimental study 1301
- H.-S. Lee, T. Noguchi, F. Tomosawa:** Evaluation of the bond properties between concrete and reinforcement as a function of the degree of reinforcement corrosion 1313
- F.D. Tamás, J. Abonyi:** Trace elements in clinker I. A graphical representation 1319
- F.D. Tamás, J. Abonyi, J. Borszéki, P. Halmos:** Trace elements in clinker II. Qualitative identification by fuzzy clustering 1325
- J. Verdier, M. Carcassès, J.P. Ollivier:** Modelling of a gas flow measurement: Application to nuclear containment vessels 1331
- B. Li, W. Liang, Z. He:** Study on high-strength composite portland cement with a larger amount of industrial wastes 1341

NEWS ITEMS

1345

2002

Volume 32, Number 9

September

PAPERS

- Á.G. De La Torre, S. Bruque, J. Campo, M.A.G. Aranda:** The superstructure of C_3S from synchrotron and neutron powder diffraction and its role in quantitative phase analyses **1347**
- H. Loosveldt, Z. Lafhaj, F. Skoczylas:** Experimental study of gas and liquid permeability of a mortar **1357**
- A.H. Asbridge, C.L. Page, M.M. Page:** Effects of metakaolin, water/binder ratio and interfacial transition zones on the microhardness of cement mortars **1365**
- A. Yan, K. Wu, X. Zhang:** A quantitative study on the surface crack pattern of concrete with high content of steel fiber **1371**
- G. Qian, D.D. Sun, J.H. Tay, Z. Lai, G. Xu:** Autoclave properties of kirschsteinite-based steel slag **1377**
- D.A. Silva, H.R. Roman, P.J.P. Gleize:** Evidences of chemical interaction between EVA and hydrating Portland cement **1383**
- S. Bhanja, B. Sengupta:** Investigations on the compressive strength of silica fume concrete using statistical methods **1391**
- T.S. Krishnamoorthy, S. Gopalakrishnan, K. Balasubramanian, B.H. Bharatkumar, P.R.M. Rao:** Investigations on the cementitious grouts containing supplementary cementitious materials **1395**
- V. Penttala, F. Al-Neshawy:** Stress and strain state of concrete during freezing and thawing cycles **1407**
- E.E. Hekal, E. Kishar, H. Mostafa:** Magnesium sulfate attack on hardened blended cement pastes under different circumstances **1421**
- S. Wen, D.D.L. Chung:** Cement-based materials for stress sensing by dielectric measurement **1429**
- K. Tanaka, K. Kurumisawa:** Development of technique for observing pores in hardened cement paste **1435**
- P. Turcry, A. Loukili, L. Barcelo, J.M. Casabonne:** Can the maturity concept be used to separate the autogenous shrinkage and thermal deformation of a cement paste at early age? **1443**
- J.O. Odigure:** Deterioration of long-serving cement-based sandcrete structures in Nigeria **1451**
- P. Degryse, J. Elsen, M. Waelkens:** Study of ancient mortars from Sagalassos (Turkey) in view of their conservation **1457**
- C. Famy, K.L. Scrivener, A.K. Crumbie:** What causes differences of C-S-H gel grey levels in backscattered electron images? **1465**
- Th.M. Salem:** Electrical conductivity and rheological properties of ordinary Portland cement–silica fume and calcium hydroxide–silica fume pastes **1473**
- Y. Zhang, W. Sun, S. Liu:** Study on the hydration heat of binder paste in high-performance concrete **1483**
- V.K. Bui, D. Montgomery, I. Hinczak, K. Turner:** Rapid testing method for segregation resistance of self-compacting concrete **1489**
- M. Jooss, H.W. Reinhardt:** Permeability and diffusivity of concrete as function of temperature **1497**

NEWS ITEMS**1505**

PAPERS

- K. Yoshioka, E.-I. Tazawa, K. Kawai, T. Enohata:** Adsorption characteristics of superplasticizers on cement component minerals 1507
- S. Zhong, Z. Chen:** Properties of latex blends and its modified cement mortars 1515
- V.G. Papadakis, S. Tsimas:** Supplementary cementing materials in concrete: Part I: Efficiency and design 1525
- V.G. Papadakis, S. Antiohos, S. Tsimas:** Supplementary cementing materials in concrete: Part II: A fundamental estimation of the efficiency factor 1533
- J.-S. Ryu, N. Otsuki, H. Minagawa:** Long-term forecast of Ca leaching from mortar and associated degeneration 1539
- M. Gesoğlu, E. Güneyisi, T. Özturan:** Effects of end conditions on compressive strength and static elastic modulus of very high strength concrete 1545
- Ş. Targan, A. Olgun, Y. Erdogan, V. Sevinc:** Effects of supplementary cementing materials on the properties of cement and concrete 1551
- C.C. Yang, J.K. Su:** Approximate migration coefficient of interfacial transition zone and the effect of aggregate content on the migration coefficient of mortar 1559
- J.C. Gálvez, J. Červenka, D.A. Cendón, V. Saouma:** A discrete crack approach to normal/shear cracking of concrete 1567
- F. Hernández-Olivares, G. Barluenga, M. Bollati, B. Witoszek:** Static and dynamic behaviour of recycled tyre rubber-filled concrete 1587
- I. Elkhadiri, A. Diouri, A. Boukhari, J. Aride, F. Puertas:** Mechanical behaviour of various mortars made by combined fly ash and limestone in Moroccan Portland cement 1597
- S. Chandra, J. Björnström:** Influence of cement and superplasticizers type and dosage on the fluidity of cement mortars—Part I 1605
- S. Chandra, J. Björnström:** Influence of superplasticizer type and dosage on the slump loss of Portland cement mortars—Part II 1613
- E.J. Garboczi:** Three-dimensional mathematical analysis of particle shape using X-ray tomography and spherical harmonics: Application to aggregates used in concrete 1621
- A.M.G. Seneviratne, N.R. Short, P. Purnell, C.L. Page:** Preliminary investigations of the dimensional stability of super-critically carbonated glass fibre reinforced cement 1639
- J.-H.J. Kim, S.-E. Jeon, J.-K. Kim:** Development of new device for measuring thermal stresses 1645
- S. Long, J. Dong, C. Yan:** Microwave promoted clinkering of sulfoaluminate cement 1653
- J. Cao, D.D.L. Chung:** Damage evolution during freeze–thaw cycling of cement mortar, studied by electrical resistivity measurement 1657
- D. Rothstein, J.J. Thomas, B.J. Christensen, H.M. Jennings:** Solubility behavior of Ca-, S-, Al-, and Si-bearing solid phases in Portland cement pore solutions as a function of hydration time 1663

COMMUNICATION

- S.R. Stock, N.K. Naik, A.P. Wilkinson, K.E. Kurtis:** X-ray microtomography (microCT) of the progression of sulfate attack of cement paste 1673

NEWS ITEMS

1677

2002

Volume 32, Number 11

November

PAPERS

- R. Levinson, H. Akbari:** Effects of composition and exposure on the solar reflectance of portland cement concrete 1679
- F. de Larrard, T. Sedran:** Mixture-proportioning of high-performance concrete 1699
- H. Xu, J.S.J. Van Deventer:** Microstructural characterisation of geopolymers synthesised from kaolinite/stilbite mixture using XRD, MAS-NMR, SEM/EDX, TEM/EDX, and HREM 1705
- N.J. Saika, P. Sengupta, P.K. Gogoi, P.C. Borthakur:** Cementitious properties of metakaolin–normal Portland cement mixture in the presence of petroleum effluent treatment plant sludge 1717
- M. Arian, K. Sobolev:** The optimization of a gypsum-based composite material 1725
- Z. Zhang, J. Olek, S. Diamond:** Studies on delayed ettringite formation in early-age, heat-cured mortars: I. Expansion measurements, changes in dynamic modulus of elasticity, and weight gains 1729
- Z. Zhang, J. Olek, S. Diamond:** Studies on delayed ettringite formation in heat-cured mortars: II. Characteristics of cement that may be susceptible to DEF 1737
- J.M. Khatib, P.S. Mangat:** Influence of high-temperature and low-humidity curing on chloride penetration in blended cement concrete 1743
- H. Donza, O. Cabrera, E.F. Irassar:** High-strength concrete with different fine aggregate 1755
- M.T. Liang, J. Wu:** Theoretical elucidation on the empirical formulae for the ultrasonic testing method for concrete structures 1763
- M. Cyr, A. Carles-Gibergues:** Normalized age applied to AAR occurring in concretes with or without mineral admixtures 1771
- A.K. Suryavanshi, R. Narayan Swamy:** Development of lightweight mixes using ceramic microspheres as fillers 1783
- M.R. Geiker, M. Brandl, L.N. Thrane, D.H. Bager, O. Wallevik:** The effect of measuring procedure on the apparent rheological properties of self-compacting concrete 1791
- A.M. El-Kamash, A.M. El-Dakroury, H.F. Aly:** Leaching kinetics of ^{137}Cs and ^{60}Co radionuclides fixed in cement and cement-based materials 1797
- M. Heikal, I. Aiad, I.M. Helmy:** Portland cement clinker, granulated slag and by-pass cement dust composites 1805
- J. Bai, S. Wild, B.B. Sabir:** Sorptivity and strength of air-cured and water-cured PC–PFA–MK concrete and the influence of binder composition on carbonation depth 1813
- B. Pacewska, I. Wilińska, M. Bukowska, W. Nocuń-Wczelik:** Effect of waste aluminosilicate on cement hydration and properties of cement mortars 1823
- M. Panet, C. Cheng, M. Deschamps, O. Poncelet, B. Audoin:** Microconcrete ageing ultrasonic identification 1831
- I. Aiad, S. Abd El-Aleem, H. El-Didamony:** Effect of delaying addition of some concrete admixtures on the rheological properties of cement pastes 1839

DISCUSSION

- S. Chatterji:** A discussion of the paper “A neutron diffraction study of ice and water within a hardened cement paste during freeze–thaw” by I.P. Swainson and E.M. Schulson 2001. Cement and Concrete Research 31, 1821–1830 1845

- I.P. Swainson, E.M. Schulson:** Reply to the discussion by S. Chatterji of the paper “A neutron diffraction study of ice and water within a hardened cement paste during freeze–thaw” by I.P. Swainson and E.M. Schulson 2001. Cement and Concrete Research 31, 1821–1830 **1847**

NEWS ITEMS

1849

2002

Volume 32, Number 12

December

PAPERS

- R.E. Rodríguez-Camacho, R. Uribe-Afif:** Importance of using the natural pozzolans on concrete durability **1851**
- W. Sun, R. Mu, X. Luo, C. Miao:** Effect of chloride salt, freeze–thaw cycling and externally applied load on the performance of the concrete **1859**
- G.T. Liu, H. Gao, F.Q. Chen:** Microstudy on creep of concrete at early age under biaxial compression **1865**
- S. Hu, X. Guan, Q. Ding:** Research on optimizing components of microfine high-performance composite cementitious materials **1871**
- G. Xiong, J. Liu, G. Li, H. Xie:** A way for improving interfacial transition zone between concrete substrate and repair materials **1877**
- M.J. Mosquera, D. Benítez, S.H. Perry:** Pore structure in mortars applied on restoration: Effect on properties relevant to decay of granite buildings **1883**
- N.M. Agyei, C.A. Strydom, J.H. Potgieter:** The removal of phosphate ions from aqueous solution by fly ash, slag, ordinary Portland cement and related blends **1889**
- J. Sieber, D. Broton, C. Fales, S. Leigh, B. MacDonald, A. Marlow, S. Nettles, J. Yen:** Standard reference materials for cements **1899**
- V. Morin, F. Cohen-Tenoudji, A. Feylessoufi, P. Richard:** Evolution of the capillary network in a reactive powder concrete during hydration process **1907**
- M. Saremi, E. Mahallati:** A study on chloride-induced depassivation of mild steel in simulated concrete pore solution **1915**
- Y.F. Houst, F.H. Wittmann:** Depth profiles of carbonates formed during natural carbonation **1923**
- C. Vipulanandan, J. Liu:** Film model for coated cement concrete **1931**
- Z. Wu, T.R. Naik:** Properties of concrete produced from multicomponent blended cements **1937**
- T.J. Kirkpatrick, R.E. Weyers, C.M. Anderson-Cook, M.M. Sprinkel:** Probabilistic model for the chloride-induced corrosion service life of bridge decks **1943**
- G.V. Guinea, K. El-Sayed, C.G. Rocco, M. Elices, J. Planas:** The effect of the bond between the matrix and the aggregates on the cracking mechanism and fracture parameters of concrete **1961**
- J. Deja:** Immobilization of Cr^{6+} , Cd^{2+} , Zn^{2+} and Pb^{2+} in alkali-activated slag binders **1971**
- COMMUNICATION**
- C.-S. Shon, D.G. Zollinger, S.L. Sarkar:** Evaluation of modified ASTM C 1260 accelerated mortar bar test for alkali–silica reactivity **1981**

DISCUSSIONS

S. Chatterji: A discussion of the paper “Effect of speciation on the apparent diffusion coefficient in nonreactive porous systems” by K.A. Synder and J. Marchand **1989**

K.A. Snyder, J. Marchand: Reply to the discussion by S. Chatterji of the paper “Effect of speciation on the apparent diffusion coefficient in nonreactive porous systems” **1991**

W.G. Hime: A discussion of the paper “Modeling the effects of solution temperature and concentration during sulfate attack on cement mortars” by M. Santhanam, M.D. Cohen and J. Olek **1993**

M. Santhanam, M.D. Cohen, J. Olek: 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 **1995**

ERRATUM

S.R. Stock, N.N. Naik, A.P. Wilkinson, K.E. Kurtis: Erratum to “X-ray microtomography (microCT) of the progression of sulphate attack of cement paste”. Cement and Concrete Research 32 (2002) 1673-1675 **1997**

NEWS ITEMS**1999****CONTENTS INDEX TO VOLUME 32****2003****AUTHOR INDEX FOR VOLUME 31****2019**