Cement, Concrete, and Aggregates
Table of Contents
Volume 15, 1993

No. 1, Summer

A Rapid Method for Measuring the Acid-Soluble Chloride Content of Powdered Concrete Samples—RICHARD E. WEYERS, MICHAEL BROWN, IMAD L. AL-QADI, AND MARK HENRY 3

Use of Fly Ash in Heat-Cured Concrete and the Effect of Post-Curing Storage Regimes on Strength, Modulus of Elasticity, and Freezing-Thawing Durability—PETER M. GIFFORD, BRIAN W. LANGAN, AND MICHAEL A. WARD 14

Effect of Three Zeolite-Containing Natural Pozzolanic Materials on Alkali-Silica Reaction—HONG WANG AND JACK E. GILLOTT 24

Evaluation of the Statistical Significance of a Regression and Selection of the Best Regression Using the Coefficient of Determination $R^2$—GILLES CHANVILLARD, J. PETER JONES, AND PIERRE-CLAUDIE ATTIN 31

Use of Dynamic Nondestructive Test Methods to Monitor Concrete Deterioration Due to Alkali-Silica Reaction— R. NARAYAN SWAMY AND W. M. RAYMOND WAN 39

Evaluation of Cylinder Size and Capping Method in Compression Strength Testing of Concrete—MICHAEL F. PISTILLI AND TERRY WILLES 59

A Comparison of Two Methods for Measuring the Chloride Ion Permeability of Concrete—RACHEL J. DETWILER AND CHRIS A. FAPOHUNDA 70

Observations on Rubberized Concrete Behavior—NEIL N. ELDIN AND AHMED B. SENOUCI 74

Technical Note: Development of Precision and Bias Statements for Testing Drilled Cores in Accordance with ASTM C 42—GLEN E. BOLLIN 85

Technical Note: Mortar Workability Apparatus: A New Approach—STEWART W. TRESOUTHICK, VAL S. DUBOVOY, AND JOHN W. GAJDIA 89

Testing Forum

No. 2, Winter

 Aggregate Mixtures for Least-Void Content for Use in Polymer Concrete—V. V. L. KANTHA RAO AND S. KRISHNAMOOTHY 97

SYMPOSIUM ON CURRENT TRENDS IN CEMENT STANDARDS

Introduction to Symposium on Current Trends in Cement Standards—LESLIE J. STRUBLE 108


Why Performance Standards for Hydraulic Cement?—RONALD F. GEBHARDT 119

Importance of Precision Statements in Developing Performance Standards for Cement—TERRY PATZIAS 124

Analysis of a Canadian Database of Mortar-Cube Strengths: The Move Towards a Canadian Performance Standard for Portland Cement—ROBERT L. DAY 128

Cement Strength and Concrete Strength—An Apparition or a Dichotomy?—RICHARD D. GAYNOR 135

European (EN) and World (ISO) Standards—Comparison with ASTM Standards—PIERRE DUTRON 145

International Development of Standards for Cements—PETER J. JACKSON AND JOHN M. LAWTON 149

Blended Cement According to ENV 197 and Experiences in Germany—MICHAEL SCHMIDT, KLAUS HARR, AND RAYMUND BOING 156

The Special Features of Cement Standards in China—TONG SANDUO 165

The New Cement Standard in Australia—Its Implication and Further Development—SAMIA GUIRGUIS 170

Technical Note: A Summary of the Results of Laboratory Inspections Conducted by the Cement and Concrete Reference Laboratory—RAYMOND M. KOLOS AND PAUL C. BURNS 174

Testing Forum

Index
Cement, Concrete, and Aggregates  
Volume 15, 1993

Number | Issue | Pages
--- | --- | ---
1 | Summer | 3–96
2 | Winter | 97–192

**A**
Aitcin, P-C: see Chanvillard, G, Jones, JP, and Aitcin, P-C
Al-Qadi, IL: see Weyers, RE, Brown, M, Al-Qadi, IL, and Henry, M

**B**
Boing, R: see Schmidt, M, Harr, K, and Boing, R
Bollin, GE: Development of precision and bias statements for testing drilled cores in accordance with ASTM C 42, Summer, 85
Brown, M: see Weyers, RE, Brown, M, Al-Qadi, IL, and Henry, M
Burns, PC: see Kolos, RN and Burns, PC

**C**
Chanvillard, G, Jones, JP, and Aitcin, P-C: Evaluation of the statistical significance of a regression and selection of the best regression using the coefficient of determination R^2, Summer, 31

**D**
Detwiler, RJ and Fapohunda, CA: Comparison of two methods for measuring the chloride ion permeability of concrete, Summer, 70
Dubovoy, VS: see Tresouthick, SW, Dubovoy, VS, and Gajda, JW
 Dutron, P: European (EN) and World (ISO) standards—comparison with ASTM standards, Winter, 145

**E-F**
Eldin, NN and Senouci, AB: Observations on rubberized concrete behavior, Summer, 74
Fapohunda, CA: see Detwiler, RJ and Fapohunda, CA
Frohnsdorff, G: see Hill, ED, Jr. and Frohnsdorff, G

**G**
Gajda, JW: see Tresouthick, SW, Dubovoy, VS, and Gajda, JW
Gaynor, RD: Cement strength and concrete strength—an apparition or a dichotomy?, Winter, 135
Gebhardt, RF: Why performance standards for hydraulic cement?, Winter, 119
Gifford, PM, Langan, BW, and Ward, MA: Use of fly ash in heat-cured concrete and the effect of post-curing storage regimes on strength, modulus of elasticity, and freezing-thawing durability, Summer, 14
Gillott, JE: see Wang, H and Gillott, JE
Guirguis, S: New cement standards in Australia—its implication and further development, Winter, 170

**H**
Harr, K: see Schmidt, M, Harr, K, and Boing, R
Henry, M: see Weyers, RE, Brown, M, Al-Qadi, IL, and Henry, M

**J**
Jackson, PJ and Lawton, JM: International development of standards for cements, Winter, 149
Johnston, CD: Effects of testing rate and age on ASTM C 1018 toughness parameters and their precision for steel fiber-reinforced concrete, Summer, 50
Jones, JP: see Chanvillard, G, Jones, JP, and Aitcin, P-C

**K-L**
Kantha Rao, VVL and Krishnamoorthy, S: Aggregate mixtures for least-void content for use in polymer concrete, Winter, 97
Kolos, RM and Burns, PC: Summary of the results of laboratory inspections conducted by the Cement and Concrete Reference Laboratory, Winter, 174
Krishnamoorthy, S: see Kantha Rao, VVL and Krishnamoothy, S
Langan, BW: see Gifford, PM, Langan, BW, and Ward, MA
Lawton, JM: see Jackson, PJ and Lawton, JM

**P**
Patzias, T: Importance of precision statements in developing performance standards for cement, Winter, 124
Pistilli, MF and Willems, T: Evaluation of cylinder size and capping method in compression strength testing of concrete, Summer, 39

**S-T**
Sanduo, T: Special features of cement standards in China, Winter, 165
Schmidt, M, Harr, K, and Boing, R: Blended cement according to ENV 197 and experiences in Germany, Winter, 156
Senouci, AB: see Eldin, NN and Senouci, AB
Struble, LJ: Introduction to symposium on current trends in cement standards, Winter, 106
Swamy, RN and Wan, WMR: Use of dynamic nondestructive test methods to monitor concrete deterioration due to alkali-silica reaction, Summer, 39
Tresouthick, SW, Dubovoy, VS, and Gajda, JW: Mortar workability apparatus: a new approach, Summer, 89

**W**
Wan, WMR: see Swamy, RN and Wan, WMR
Wang, H and Gillott, JE: Effect of three zeolite-containing natural pozzolanic materials on alkali-silica reaction, Summer, 24
Ward, MA: see Gifford, PM, Langan, BW, and Ward, MA
Weyers, RE, Brown, M, Al-Qadi, IL, and Henry, M: Rapid method for measuring the acid-soluble chloride content of powdered concrete samples, Summer, 3
Willems, T: see Pistilli, MF and Willems, T
Importance of precision statements in developing performance standards for cement (Patrías, T), Winter, 124

Expansion
Effect of three zeolite-containing natural pozzolanic materials on alkali-silica reaction (Wang, H and Gillott, J), Summer, 24

Fiber-reinforced
Effects of testing rate and age on ASTM C 1018 toughness parameters and their precision for steel fiber-reinforced concrete (Johnston, CD), Summer, 50

First-crack strength
Effects of testing rate and age on ASTM C 1018 toughness parameters and their precision for steel fiber-reinforced concrete (Johnston, CD), Summer, 50

Fly ash
Use of fly ash in heat-cured concrete and the effect of post-curing storage regimes on strength, modulus of elasticity, and freezing-thawing durability (Gifford, PM, Langan, BW, and Ward, MA), Summer, 14

Fresh mortar
Mortar workability apparatus: a new approach (Tanesuithich, SW, Dubovoy, VS, and Gajda, JW), Summer, 89

Grinding surface ends
Evaluation of cylinder size and capping method in compression strength testing of concrete (Pistilli, MF and Willems, T), Summer, 59

Hydraulic cement
Why performance standards for hydraulic cement? (Gebhardt, RF), Winter, 119

Image analysis
Portland cement specifications: performance, prescription, and prediction (Hill, ED, Jr. and Frohnsdorf, G), Winter, 109

Least-void content
Aggregate mixtures for least-void content for use in polymer concrete (Kantha Rao, VVL and Krishamoothy, S), Winter, 97

Materials science
Portland cement specifications: performance, prescription, and prediction (Hill, ED, Jr. and Frohnsdorf, G), Winter, 109

Mathematical modeling
Portland cement specifications: performance, prescription, and prediction (Hill, ED, Jr. and Frohnsdorf, G), Winter, 109

Mortar cubes
Analysis of a Canadian database of mortar-cube strengths: the move toward a Canadian performance standard for portland cement (Day, RL), Winter, 128

Mortars
Cement strength and concrete strength—an apparition or a dichotomy? (Guynor, RD), Winter, 135

On-site inspections
Summary of the results of laboratory inspections conducted by the Cement and Concrete Reference Laboratory (Kolos, RM and Burns, PC), Winter, 174

P-Particle interference
Aggregate mixtures for least-void content for use in polymer concrete (Kantha Rao, VVL and Krishamoothy, S), Winter, 97

Permeability
Comparison of two methods for measuring the chloride ion permeability of concrete (Detwiler, RJ and Fapohunda, CA), Summer, 70

Portland cement
Analysis of a Canadian database of mortar-cube strengths: the move toward a Canadian performance standard for portland cement (Day, RL), Winter, 128

Blended cement according to ENV 197 and experiences in Germany (Schmidt, M, Harr, K, and Boing, R), Winter, 156

International development of standards for cement (Jackson, PJ and Lawton, JM), Winter, 149

New cement standards in Australia—its implication and further development (Guirguis, S), Winter, 170

Why performance standards for hydraulic cement? (Gebhardt, RF), Winter, 119

R-Regression
Evaluation of the statistical significance of a regression and selection of the best regression using the coefficient of determination (Chanvillard, G, Jones, JP, and Aitcin, P-C), Summer, 31

Slump
Observations on rubberized concrete behavior (Eldin, NN and Senouci, AB), Summer, 74

Specifications
International development of standards for cements (Jackson, PJ and Lawton, JM), Winter, 149

Standardization trends
Why performance standards for hydraulic cement? (Gebhardt, RF), Winter, 119

Standards
European (EN) and World (ISO) standards—comparison with ASTM standards (Dutron, P), Winter, 145

Performance standards
Importance of precision statements in developing performance standards for cement (Patrías, T), Winter, 124

New cement standards in Australia—its implication and further development (Guirguis, S), Winter, 170

Permeability
Comparison of two methods for measuring the chloride ion permeability of concrete (Detwiler, RJ and Fapohunda, CA), Summer, 70

Portland cement
Analysis of a Canadian database of mortar-cube strengths: the move toward a Canadian performance standard for portland cement (Day, RL), Winter, 128

Blended cement according to ENV 197 and experiences in Germany (Schmidt, M, Harr, K, and Boing, R), Winter, 156

Importance of precision statements in developing performance standards for cement (Patrías, T), Winter, 124

International development of standards for cements (Jackson, PJ and Lawton, JM), Winter, 149

New cement standards in Australia—its implication and further development (Guirguis, S), Winter, 170

Portland cement specifications: performance, prescription, and prediction (Hill, ED, Jr. and Frohnsdorf, G), Winter, 109

Precast
Use of fly ash in heat-cured concrete and the effect of post-curing storage regimes on strength, modulus of elasticity, and freezing-thawing durability (Gifford, PM, Langan, BW, and Ward, MA), Summer, 14

Steel fibers
Effects of testing rate and age on ASTM C 1018 toughness parameters and their precision for steel fiber-reinforced concrete (Johnston, CD), Summer, 50

Strength
Analysis of a Canadian database of mortar-cube strengths: the move toward a Canadian performance standard for portland cement (Day, RL), Winter, 128

Swelling
Observations on rubberized concrete behavior (Eldin, NN and Senouci, AB), Summer, 74

Workability
Observations on rubberized concrete behavior (Eldin, NN and Senouci, AB), Summer, 74

Z-Zeolite
Effect of three zeolite-containing natural pozzolanic materials on alkali-silica reaction (Wang, H and Gillott, J), Summer, 24