Cement, Concrete, and Aggregates
Index to Volume 5
1983

<table>
<thead>
<tr>
<th>Number</th>
<th>Issue</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Summer</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>Winter</td>
<td>152</td>
</tr>
</tbody>
</table>

Absorption: Lithological characteristics of concrete aggregates as related to durability (Robinson), Summer, 70

Aggregates: Discussion of "proportioning of coarse aggregate for conventionally and gap-graded concrete" by D. O. Ehrenburg (Li and Ramakrishnan), Winter, 145

Air-entraining agents: A method for analyzing void distribution in air-entrained concrete (Philleo), Winter, 128

Air entrainment: A method for analyzing void distribution in air-entrained concrete (Philleo), Winter, 128

Alkalies

Alkaline reaction of strained quartz as a constituent of concrete aggregate (Buck), Winter, 131

Study of alkali-silica reactivity tests to improve correlation and predictability for aggregates (Heck), Summer, 47

Alkali aggregate reactions

Alkaline reaction of strained quartz as a constituent of concrete aggregate (Buck), Winter, 131

Some opportunities to offset poor quality characteristics of high-alkali cement (Spellman), Summer, 73

Bibliographies: Quantitative X-ray diffraction analysis of cement and clinker: a bibliography (Struble), Summer, 62

Bluestone: Performance of blast-furnace slag cement (Cattaneo and Frigione), Summer, 42

Book review: Fundamentals of Portland Cement Concrete by Popovics (Head), Winter, 147

Bridge decks: Chloride penetration and the deterioration of concrete bridge decks (Cady and Weyers), Winter, 81

Bromine: Waste fuels program at the Mississauga Plant of St. Lawrence Cement, Inc. (MacDonald), Summer, 26

Buck, A. D.: Alkaline reaction of strained quartz as a constituent of concrete aggregate, Winter, 131

Bulk density

The Grace factor: a new tool for cement industry process control engineers (Welch), Summer, 35

Production technology of expanded clay aggregate gravel with bulk density below 300 kg/m³ (Yaksharov and Skiba), Winter, 134

By-products: Incorporation of low levels of by-products in portland cement and the effects on cement quality (Daugherthy and Funnell), Summer, 14

Cundy, P. D.: New method, Summer, 77

Dadyry, P. D. and Weyers, R. E.: Chloride penetration and the deterioration of concrete bridge decks, Winter, 81

Calcium carbonates: Potential use of catalysts in the cement industry (Safa, Daugherty, Mallow, Dziuk, and Funnell), Summer, 21

Capon, B. M., Layne, P. B., and Watson, D.: Use of unconventional fuels in cement manufacture, Summer, 30

Carette, G. G. and Malhotra, V. M.: Mechanical properties, durability, and drying shrinkage of portland cement concrete incorporating silica fume, Summer, 3

Carrasquillo, R. L. and Slate, F. O.: Microcracking and definition of failure of high- and normal-strength concretes, Summer, 54

Catalysts: Potential use of catalysts in the cement industry (Safa, Daugherty, Mallow, Dziuk, and Funnell), Summer, 21

Cattaneo, A. and Frigione, G.: Performance of blast-furnace slag cement, Summer, 42

Cement Reference Laboratory: CCRL management moves, Winter, 148

Cements

Performance of blast-furnace slag cement (Cattaneo and Frigione), Summer, 42

Quantitative X-ray diffraction analysis of cement and clinker: a bibliography (Struble), Summer, 62

Use of unconventional fuels in cement manufacture (Capon, Layne, and Watson), Summer, 30

Charts: Study of alkali-silica reactivity tests to improve correlation and predictability for aggregates (Heck), Summer, 47

Clinker: Quantitative X-ray diffraction analysis of cement and clinker: a bibliography (Struble), Summer, 62

Coefficient of variation: Variation of laboratory concrete flexural strength tests (Greer), Winter, 111

Compression tests: Effects of initial field curing on standard 28-day cylinder strengths (Meininger), Winter, 137

Compressive strength: Some opportunities to offset poor quality characteristics of high-alkali cement (Spellman), Summer, 73

Concrete pavements: Variation of laboratory concrete flexural strength tests (Greer), Winter, 111

Concrete

Chloride penetration and the deterioration of concrete bridge decks (Cady and Weyers), Winter, 81

Discussion of "proportioning of coarse aggregate for conventionally and gap-graded concrete" by D. O. Ehrenburg (Li and Ramakrishnan), Winter, 145

Effects of initial field curing on standard 28-day cylinder strengths (Meininger), Winter, 137

Evaluation of selected procedures for the rapid analysis of fresh concrete (Head, Philippi, Howdyshell, and Lawrence), Winter, 88

Mechanical properties, durability, and drying shrinkage of portland cement concrete incorporating silica fume (Carette and Malhotra), Summer, 3

Method for analyzing void distribution in air-entrained concrete (Philleo), Winter, 28

Microcracking and definition of failure of high- and normal-strength concretes (Carrasquillo and Slate), Summer, 54

Variation of laboratory concrete flexural strength tests (Greer), Winter, 111

Curing: Effects of initial field curing on standard 28-day cylinder strengths (Meininger), Winter, 137

D-E

Daugherthy, K. E. and Funnell, J. E.: Incorporation of low levels of by-products in portland cement and the effects on cement quality, Summer, 1

Daugherthy, K. E.: see Safa, A. I., Daugherthy, K. E., Mallow, W. A., Dziuk, J. J., and Funnell, J. E.

Deicing: Chloride penetration and the deterioration of concrete bridge decks (Cady and Weyers), Winter, 81

Dziuk, J. J.: see Safa, A. I., Daugherthy, K. E., Mallow, W. A., Dziuk, J. J., and Funnell, J. E.

Energy: Incorporation of low levels of by-products in portland cement and the effects on cement quality (Daugherthy and Funnell), Summer, 14

Energy dispersive: Chemical analysis of portland cement by energy dispersive X-ray fluorescence (Wheeler), Winter, 123

Expanded clay aggregates: Production technology of expanded clay aggregate gravel with bulk density below 300 kg/m³ (Yaksharov and Skiba), Winter, 134

Expansion: Study of alkali-silica reactivity tests to improve correlation and predictability for aggregates (Heck), Summer, 47

F-H

Fly ash: Some questions concerning ASTM standards and methods of testing fly ash for use with portland cement (Helmuth), Winter, 103
Freezing: Lithological characteristics of concrete aggregates as related to durability (Robinson), Summer, 70
Frigione, G.: see Cattaneo, A. and Frigione, G.
Frost: Lithological characteristics of concrete aggregates as related to durability (Robinson), Summer, 70
Fuels: Use of unconventional fuels in cement manufacture (Capon, Layne, and Watson), Summer, 30
Funnell, J. E.:
see Daugherty, K. E. and Funnell, J. E.
see Safa, A. I., Daugherty, K. E., Mallow, W. A., Dziuk, J. J., and Funnell, J. E.
Green, W. C., Jr.: Variation of laboratory concrete flexural strength tests, Winter, 111
Head, W. J.: Review of Fundamentals of Portland Cement Concrete by Popovics, Winter, 147
Heck, W. J.: Study of alkali-silica reactivity tests to improve correlation and predictability for aggregates, Summer, 47
Heed, E. G.: Award of Merit, Winter, 148
Helmut, R.: Some questions concerning ASTM standards and methods of testing fly ash for use with portland cement, Winter, 103
High strength concretes: Microcracking and definition of failure of high- and normal-strength concretes (Carrasquillo and Slate), Summer, 54
K-M
Kilns
Use of unconventional fuels in cement manufacture (Capon, Layne, and Watson), Summer, 30
Waste fuels program at the Mississauga Plant of St. Lawrence Cement, Inc. (MacDonald), Summer, 26
Lawrence, D.: see Head, W. J., Phillippi, H. M., Howdyshell, P. A., and Lawrence, D.
Layne, P. B.: see Capon, B. M., Layne, P. B., and Watson, D.
Lead (metal): Waste fuels program at the Mississauga Plant of St. Lawrence Cement, Inc. (MacDonald), Summer, 26
Limestone: Potential use of catalysts in the cement industry (Safa, Daugherty, Mallow, Dziuk, and Funnell), Summer, 21
Li, S-T. and Ramakrishnan, V.: Discussion of "proportioning of coarse aggregate for conventionally and gap-graded concrete" by D. O. Ehrenburg, Winter, 145
MacDonald, L. P.: Waste fuels program at the Mississauga Plant of St. Lawrence Cement, Inc., Summer, 70
Mallow, V. M.: see Carrette, G. G. and Malhotra, V. M.
Mallow, W. A.: see Safa, A. I., Daugherty, K. E., Mallow, W. A., Dziuk, J. J., and Funnell, J. E.
Meininger, R. C.: Effects of initial field curing on standard 28-day cylinder strengths, Winter, 137
Moisture content: Evaluation of selected procedures for the rapid analysis of fresh concrete (Head, Philippi, Howdyshell, and Lawrence), Winter, 88
P Petrography: Alkali reactivity of strained quartz as a constituent of concrete aggregate (Buck), Winter, 131
Philleo, R. E.: A method for analyzing void distribution in air-entrained concrete, Winter, 128
Poison ratio: Microcracking and definition of failure of high- and normal-strength concretes (Carrasquillo and Slate), Summer, 54
Portland cements: Incorporation of low levels of by-products in portland cement and the effects on cement quality (Daugherty and Funnell), Summer, 14
Mechanical properties, durability, and drying shrinkage of portland cement concrete incorporating silica fume (Carrette and Malhotra), Summer, 3
Some opportunities to offset poor quality characteristics of high-alkali cement (Spellman), Summer, 73
Safa, A. I., Daugherty, K. E., Mallow, W. A., Dziuk, J. J., and Funnell, J. E.: Potential use of catalysts in the cement industry, Summer, 21
Silica: Mechanical properties, durability, and drying shrinkage of portland cement concrete incorporating silica fume (Carrette and Malhotra), Summer, 3
Skiba, B. V.: see Yaksharov, O. J. and Skiba, B. V.
Slate, F. O.: see Carrasquillo, R. L. and Slate, F. O.
Spellman, L. U.: Some opportunities of offset poor quality characteristics of high-alkali cement, Summer, 73
Spann, L. S.: see Matelsinskii, R. N., Rogatin, Y. A. and Spann, L. S.
Standards: Some questions concerning ASTM standards and methods of testing fly ash for use with portland cement (Helmut), Winter, 103
Statistical analysis: Evaluation of selected procedures for the rapid analysis of fresh concrete (Head, Phillippi, Howdyshell, and Lawrence), Winter, 88
Sulfate resisting cements: Performance of blast-furnace slag cement (Cattaneo and Frigione), Summer, 42

T-Y
Thermal expansion: Production technology of expanded clay aggregate gravel with bulk density below 300 kg/m³ (Yaksharov and Skiba), Winter, 134
Trends: The Grace factor: a new tool for cement industry process control engineers (Welch), Summer, 35
Waste: The Grace factor: a new tool for cement industry process control engineers (Welch), Summer, 35
Weyer, R. E.: see Cady, P. D. and Weyers, R. E.
Wheeler, B. D.: Chemical analysis of portland cement by energy dispersive X-ray fluorescence (Wheeler), Winter, 123
Whiting, D. A.: Award. Summer, 77
X-ray fluorescence: Chemical analysis of portland cement by energy dispersive X-ray fluorescence (Wheeler), Winter, 123
Yaksharov, O. J. and Skiba, B. V.: Production technology of expanded clay aggregate gravel with bulk density below 300 kg/m³, Winter, 134
Cement & Concrete Reference Lab. Evaluate the quality of your laboratory's testing and identify problems with equipment and procedures with a Proficiency Sample Program provided by ASTM's Cement and Concrete Reference Laboratory (CCRL). Laboratories monitor the quality of their testing between ASTM on-site laboratory inspections and supports accreditation programs conducted by others organizations. Proficiency Sample Programs Offered: Portland Cement. WARNING: No cement slurry should ever be pumped without a laboratory test using the actual materials that will get mixed on the job. (Cement, additives and field water). Perform compatibility tests between the cementing fluids and wellbore. When testing the slurry for a hesitation squeeze, it is recommended to simulate the shutdown times in the laboratory during testing of the cement slurry. An additional safety factor should be considered for circulation squeeze. In these operations, the actual thickening time is typically reduced and the gel strength development considerably accelerated due to the loss of filtrate while the cement slurry flows under pressure behind the casing between the perforations.

Cementitious material includes: portland cement, blended cements, ground granulated blast furnace slag, fly ash, silica fume, metakaolins and other materials having cementitious properties. The Laboratory must participate in the Cement and Concrete Reference Laboratory (CCRL) or other program approved by the Mn/DOT Concrete Engineering Unit. A laboratory certification program is required. C. Mill Test Report Program The cement manufacturing plant or cement distribution terminal (certified source) shall submit to the Mn/DOT Concrete Engineer a copy of the proposed Mill Test Report Program. This program is submitted for approval, prior to certification, in writing to