

Papers and books on cement and concrete

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MATERIALS

Cement

MANUFACTURE

BAICULESCU, E. M. Construcții speciale pentru fabricile de ciment: fundațiile cuptoarelor de clincher de 3000 t/zi. (Special structures for cement mills: 3000 t/day clinker kiln foundations.) *Constructii*. Vol. 25, No. 4. 1973. pp. 4-10.

BEKE, B. Grinding body size and the hardening of cement. *Cement Technology*. Vol. 4, No. 2. March/April 1973. pp. 47-49, 52, 54-56.

BUSCH, H. and PETZOLD, A. Properties and behaviours of blast-furnace slags in relation to their heat treatment. *Cement-Wapno-Gips*. Vol. 27, No. 1. 1972. Translated from the Polish. Garston, Building Research Establishment, 1972. pp. 6. Library Translation LT 1718.

DEUTSCHER NORMENAUSSCHUSS. Portland cement, iron portland cement, blastfurnace cement and trass cement: definitions, components, requirements, delivery. *DIN 1164*. Sheets 1-3. 1970. Translated from the German. Garston, Building Research Establishment, 1972. pp. 19. Library Translation LT 1700.

PATZIAS, T. Statistical quality control. *Cement Technology*. Vol. 4, No. 3. May/June 1973. pp. 87-90.

PROPERTIES

BALL, M. C., STAPLETON, G. and RAFFLE, J. F. Fibrous structure in a hardened cement paste. *Magazine of Concrete Research*. Vol. 25, No. 83. June 1973. pp. 99-101.

BENSTED, J. and VARMA, S. P. The low-sulphate form of calcium sulphoaluminate (monosulphate). *Cement Technology*. Vol. 4, No. 3. May/June 1973. pp. 112-114, 116.

BRUNAUER, S., SKALNÝ, J., ODLER, I. and YUDENFREUND, M. Hardened portland cement pastes of low porosity. VII: Further remarks about early hydration. Composition and surface area of tobermorite gel. Summary. *Cement and Concrete Research*. Vol. 3, No. 3. May 1973. pp. 279-293.

COLLEPARDI, M., MARCIALIS, A. and SOLINAS, V. L'influenza del ligninsolfonato di calcio sull'idratazione dei cementi. (The influence of calcium lignosulfonate on the hydration of cements.) *Il Cemento*. Vol. 70, No. 1. January-March 1973. pp. 3-14.

GUPTA, P., CHATTERJI, S. and JEFFERY, J. W. Studies of the effects of various additions on the hydration reaction of tricalcium aluminate. Part 4. *Cement Technology*. Vol. 4, No. 2. March/April 1973. pp. 63-66, 68-69.

HIGHWAY RESEARCH BOARD. *Guide to compounds of interest in cement and concrete research*. Washington, D.C., 1972. pp. vi, 53. Special Report 127.

KLIEGER, P. and PERENCHIO, W. F. *Laboratory studies of blended cements: portland pozzolan cements*. Skokie, Portland Cement Association, 1972. pp. 11. RDO13.01R.

RAMACHANDRAN, V. S. Influence of triethanolamine on the hydration characteristics of tricalcium silicate. Reprinted from *Journal of Applied Chemistry and Biotechnology*, Vol. 22, 1972. Ottawa, National Research Council of Canada, 1972. pp. 14. Research Paper No. 542.

RIEDEL, W. Die Korrosionsbeständigkeit von Zementmörteln in Magnesiumsalzlösungen. (Corrosion resistance in solutions of magnesium salts.) *Zement-Kalk-Gips*. Vol. 26, No. 6. June 1973. pp. 286-296.

RIO, A. and SAINI, A. A review of research on the relationship between mechanical properties and chemical morphological structure of the hydration products of hydraulic binders. (Translated from the Italian by D. A. SINCLAIR.) *L'Industria Italiana del Cemento*. Vol. 39, No. 12. 1969. Ottawa, National Research Council of Canada, 1972. pp. 19. Technical Translation 1585.

SAALFELD, H. Stabilization of Verneuil Boules of the composition $\text{Ca}_2\text{SiO}_4(\text{C}_2\text{S})$ by $\text{Ca}_3(\text{PO}_4)_2$ and V_2O_5 . *Bericht der Deutschen Keramischen Gesellschaft*. Vol. 48, No. 10. 1971. Translated from the German. Garston, Building Research Establishment, 1972. pp. 11. Library Translation LT 1735.

Aggregates

CZURYSKIEWICZ, A. The effect of aggregate shape upon the strength of structural lightweight-aggregate concrete. *Magazine of Concrete Research*. Vol. 25, No. 83. June 1973. pp. 81-86.

MAREK, C. R. *Promising replacements for conventional aggregates for highway use*. Washington, D.C., Highway Research Board, 1972. pp. 53. NCHRP 135.

STARK, D. and KLIEGER, P. *The effect of maximum size of coarse aggregate on D-cracking in concrete pavements*. Skokie, Portland Cement Association, 1973. pp. 15. R & D Series 1503-1.

Reinforcement

ACI COMMITTEE 439. Uses and limitations of high strength steel reinforcement. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 2. February 1973. pp. 77-104.

*For the benefit of readers who wish to index these references, separate unbacked copies of this section of the *Magazine* may be obtained free of charge from the Editor.

BALLIO, G. Esperienze su barre di grande diametro per il cemento armato. (Tests on larger diameter bars for reinforced concrete.) *L'Industria Italiana del Cemento*. Vol. 43, No. 3. March 1973. pp. 207-216.

ELEY, W. G. Reinforcing steel – a contractor's view. *Concrete*. Vol. 7, No. 6. June 1973. pp. 22-24.

GALE, K. Steel fibres arrest cracks in concrete. *Civil Engineering and Public Works Review*. Vol. 68, No. 803. June 1973. pp. 501-502.

MAN, J. The effect of the microstructure on the embrittlement of low carbon steel, Part 1. *Kovovo Materialy*. Vol. 10, No. 3. 1972. Translated by V. E. RIECANSKY. Paris, Institut du Verre, 1972. pp. 16.

STEFFENS, H.-D. and CROSTACK, H.-A. Das Verhalten von Spannstählen gegenüber Spannungsrisskorrosion. (The behaviour of prestressing steels under stress crack corrosion.) *Betonwerk + Fertigteil-Technik*. Vol. 39, No. 6. June 1973. pp. 417-422.

Admixtures

CHEMISCHE FABRIK HOESCH KOMMANDITGESELLSCHAFT. Procédé de préparation de pièces de construction en béton étanches à l'eau et à l'huile. (Process for the preparation of concrete structural components impervious to water and oil.) Paris, Institut National de la Propriété Industrielle, 1969. pp. 4. Patent No. 1.569.812.

WOLHUTER, C. W. and MORRIS, R. M. Strength-imposed limitations on admixed calcium chloride content of concrete. *The Civil Engineer in South Africa*. Vol. 15, No. 5. May 1973. pp. 129-131.

YAMAMOTO, T. *Retarders for concrete and their effects on setting time and shrinkage*. Lafayette, Purdue University, 1972. pp. xv, 181. JHRP51.

CONCRETE

Mix design and quality control

AMERICAN CONCRETE INSTITUTE. *Realism in the application of ACI Standard 214-65*. Detroit, 1973. pp. 214. Special Publication SP-37.

ANON. Pumice concrete. *N.Z. Concrete Construction*. Vol. 17, No. 2. April 1973. pp. 14-15.

PEPPER, L. *Analysis of check-test results of pozzolan samples*. Vicksburg (Miss.), U.S. Army Engineer Waterways Experiment Station, 1973. pp. 41. Technical Report C-73-1.

SANDSTEDT, C. E., LEDBETTER, W. B. and GALLAWAY, R. M. Prediction of concrete strength from the calculated porosity of the hardened cement paste. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 2. February 1973. pp. 115-116.

Properties

AMERICAN CONCRETE INSTITUTE. *Lightweight concrete*. Detroit, 1971. pp. 321. Special Publication SP-29.

AMERICAN CONCRETE INSTITUTE. *Specifications for structural concrete for buildings ACI 301-72 (with selected ACI and ASTM references)*. Detroit, 1972. pp. 233. Publication SP-15(72).

COOK, D. J. *Some aspects of the mechanism of tensile creep in concrete*. Kensington, N.S.W., University of New South Wales, 1972. pp. 7. Unicity Report R-97.

DEPARTMENT OF THE ENVIRONMENT. *The colour of unpigmented concrete*. London, H.M.S.O., 1973. pp. 19.

GVOZDEV, A. A., GALUSTOV, K. Z. and YASHIN, A. V. Refinement of the theory of linear creep of concrete. *Mekhanika Tverdogo Tela*. No. 6. 1967. pp. 13-17. Translated from Russian by V. POPPE. Ottawa, National Research Council of Canada, 1972. pp. 10. Technical Translation 1580.

HANNANT, D. J. The tensile strength of concrete: a review paper. *The Structural Engineer*. Vol. 51, No. 5. May 1973. pp. 189-190. Correspondence from K. RAJAGOPALAN.

HARMATHY, T. Z. and ALLEN, L. W. Thermal properties of selected masonry unit concretes. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 2. February 1973. pp. 132-142.

KAKIZAKI, M. Study of shrinkage crack occurrence in artificial lightweight aggregate concrete. *Transactions of the Architectural Institute of Japan*. No. 203. January 1973. pp. 1-12.

POMEROY, C. D. Evaluating modified concretes. *Concrete*. Vol. 7, No. 5. May 1973. pp. 34-36. No. 6. June 1973. pp. 32-34.

RAGSDALE, L. A. and RAYNSHAM, E. A. *Building materials technology*. London, Edward Arnold, 1972. pp. 336.

SCHUSTER, F. O. Die Beanspruchung der Oberfläche von Betonfahrbahnen. (Loading capacity and durability of the surface of concrete pavements.) *Beton: Herstellung, Verwendung*. Vol. 23, No. 6. June 1973. pp. 254-259.

SHARP, R. *Concrete in the environment*. London, Institution of Municipal Engineers, 1973. pp. 16. Monograph No. 20.

TAYLOR, W. H. *Foamed concrete*. Sydney, Cement and Concrete Association of Australia, 1972. pp. 14. TN26.

URMSTON, C. W. B. and BESSEY, G. E. Structural lightweight concrete using lightweight aggregates with aeration. *Chemistry and Industry*. No. 7. 7 April 1973. pp. 300-307.

Curing

ALUNNO-ROSSETTI, V., CHIOCCIO, G. and COLLEPARDI, M. Stagionatura a vapore e resistenza dei cementi portland in soluzione di solfato sodico. (Steam curing and resistance of Portland cements to sodium sulphate solution.) *Il cemento*. Vol. 70, No. 1. January-March 1973. pp. 23-32.

MIRONOV, S. A., LAGOYDA, A. V. and USOV, B. A. Intensifying the hardening of steam-cured concrete by the addition of hardening accelerators. *Beton i Zhelezobeton*. No. 3. 1973. pp. 12-14. (In Russian.)

TESTING

General

AMERICAN SOCIETY FOR TESTING AND MATERIALS. *Composite materials: testing and design (a conference sponsored by the A.S.T.M., Anaheim, Calif, April 1971)*. Philadelphia, 1972. pp. ix, 609. Special Technical Publication 497.

ATAN, Y. and SLATE, F. O. Structural lightweight concrete under biaxial compression. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 3. March 1973. pp. 182-186.

BOFINGER, H. E. and DUFFELL, C. G. *The effect of fillers on the characteristics of sand-cement mixtures*. Crowthorne, Transport and Road Research Laboratory, 1973. pp. 10+13. LR 527.

BYCH, P. M. On the relationship between concrete compressive strength and shape of specimen. *Beton i Zhelezobeton*. No. 3. 1973. pp. 36-38. (In Russian.)

CAMPBELL-ALLEN, D. *Size effects in drying and shrinkage of concrete*. Sydney, University of Sydney, 1972. pp. 11. Research Report R189.

CAMPBELL-ALLEN, D., KASS, J. L. and BOOKER, J. R. Size effects in drying and shrinkage of concrete. *Materials and Structures: Research and Testing*. Vol. 6, No. 32. March-April 1973. pp. 151-152.

CATHARIN, P. The non-destructive testing of standard prisms for determining the compressive strength. *Zement-Kalk-Gips*. Vol. 14, No. 9. 1961. Translated from the German by M. CORBIN. Skokie, Portland Cement Association. pp. 35. Foreign Literature Study No. 369.

DHIR, R. K., SANGHA, C. M. and MUNDAY, J. G. L. Strength and deformation properties of autogenously healed mortars. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 3. March 1973. pp. 231-236.

FÄH, N. Die Einflüsse der Prüfvorschriften auf die Druckfestigkeit von Zementmörtel – Untersuchungsergebnisse und Anwendungsmöglichkeiten. (The effects of test specifications on the compressive strength of cement mortar – research results and possibilities for application.) *Zement-Kalk-Gips*. Vol. 26, No. 3. March 1973. pp. 140-147.

GALLOWAY, J. W. and RAITHBY, K. D. *Effects of rate of loading on flexural strength and fatigue performance of concrete*. Crowthorne, Transport and Road Research Laboratory, 1973. pp. 10 + 9. LR 547.

MATTOCK, A. H. *Shear transfer in concrete having reinforcement at an angle to the shear plane*. Seattle, University of Washington, 1973. pp. 24. SM73-1.

MILOVANOV, A. F. and MAZO, E. A. Temperature stresses in unilateral heating of hyperstatic structures. *Beton i Zhelezobeton*. No. 3. 1973. pp. 8–10. (In Russian.)

SCOTT, N. L. Performance of precast prestressed hollow core slab with composite concrete topping. *Journal of the Prestressed Concrete Institute*. Vol. 18, No. 2. March–April 1973. pp. 64–77.

WALSH, P. F. Fracture of plain concrete. *The Indian Concrete Journal*. Vol. 46, No. 11. November 1972. pp. 469–470, 476.

Methods

HAYNES, J. M. Determination of pore properties of constructional and other materials – general introduction and classification of methods. *Materials and Structures: Research and Testing*. Vol. 6, No. 33. May–June 1973. pp. 169–174.

NEVILLE, A. M. and LISZKA, W. Z. Accelerated determination of creep of lightweight aggregate concrete. *Civil Engineering and Public Works Review*. Vol. 68, No. 803. June 1973. pp. 515–519.

ROBERTS, J. J. The effect of test procedure upon the indicated strength of concrete blocks in compression. *Magazine of Concrete Research*. Vol. 25, No. 83. June 1973. pp. 87–98.

ROBERTS, N. P. A limit state anchorage bond test for reinforcement in concrete. *Materials and Structures: Research and Testing*. Vol. 6, No. 32. March–April 1973. pp. 119–122.

SPARKS, P. R. and MENZIES, J. B. The effect of rate of loading upon the static and fatigue strengths of plain concrete in compression. *Magazine of Concrete Research*. Vol. 25, No. 83. June 1973. pp. 73–80.

Apparatus

PURKISS, J. A. and DOUGILL, J. W. Apparatus for compression tests on concrete at high temperatures. *Magazine of Concrete Research*. Vol. 25, No. 83. June 1973. pp. 102–108.

Models

ANON. Progress in structures – collapse in large panel structures. *Building Research Establishment News*. No. 23. Spring 1973. pp. 8–9.

Structural

AAS-JAKOBSEN, K. and LENSCHOW, R. Behavior of reinforced columns subjected to fatigue loading. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 3. March 1973. pp. 199–206.

CAJDERT, A. and LOSBERG, A. *Laterally loaded light expanded clay block masonry: the effect of reinforcement in horizontal joints*. Göteborg, Chalmers University of Technology, 1973. pp. 11. Division of Concrete Structures Publication 73:3.

GUSTAFERRO, A. H. Fire resistance of post-tensioned structures. *Journal of the Prestressed Concrete Institute*. Vol. 18, No. 2. March–April 1973. pp. 38–63.

HAYNES, H. and KAHN, L. F. Undersea concrete spherical structures. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 5. May 1973. pp. 337–340.

HUTCHINS, J. S. and MCKENZIE, M. *Characterisation of bridge locations by corrosion and environmental measurements – first year results*. Crowthorne, Transport and Road Research Laboratory, 1973. pp. 9 + 18. LR 550.

KARLSSON, I. *Stiffness properties of reinforced concrete beams in combined torsion, bending and shear*. Göteborg, Chalmers University of Technology, 1973. pp. 203. Division of Concrete Structures Publication 73:1.

KUPFER, H. and BAUMANN, T. *Versuche zur Schubsicherung und Momentendeckung von profilierten Stahlbetonbalken*. (Tests in connection with shear reinforcement and bending moment reinforcement in T-section and I-section beams.) Berlin, Wilhelm Ernst und Sohn, 1972. pp. 53. Deutscher Ausschuss für Stahlbeton. Heft 218.

ÖDMAN, S. T. A. *Tests on shrinkage of reinforced concrete beams*. Stockholm, Swedish Cement and Concrete Research Institute, 1973. pp. 99. Proceedings No. 45.

PANDIT, G. S. and MAWAL, M. B. Tests on short columns in torsion. *The Indian Concrete Journal*. Vol. 46, No. 11. November 1972. pp. 471–474.

SHEPHERD, R. and AVES, R. J. Impact factors for simple concrete bridges. *Proceedings of the Institution of Civil Engineers. Part 2: Research and Theory*. Vol. 55. March 1973. pp. 191–210.

TYLER, R. G. *Long-term strains in the Medway bridge*. Crowthorne, Transport and Road Research Laboratory, 1973. pp. 31 + 14. LR 539.

VIRDI, K. S. and DOWLING, P. J. The ultimate strength of composite columns in biaxial bending. *Proceedings of the Institution of Civil Engineers: Part 2: Research and Theory*. Vol. 55. March 1973. pp. 251–272.

CONSTRUCTIONAL TECHNIQUES

General

ANON. Earthquake-resistant construction. *Concrete Construction*. Vol. 18, No. 6. June 1973. pp. 266–267.

ANON. Hamburg's Köhlbrand Bridge. *International Construction*. Vol. 12, No. 6. June 1973. pp. 8–9, 12–15.

CENTRE SCIENTIFIQUE ET TECHNIQUE DE LA CONSTRUCTION. *Note sur le béton armé et précontraint*. (Post-tensioned prestressed concrete.) Brussels, 1972. pp. 51.

CSUTOR, J. Rütteltechnik in Theorie und Praxis bei der Betonverdichtung. (Vibration technology – theory and application in concrete compaction.) *Betonwerk + Fertigteil-Technik*. Vol. 39, No. 1. January 1973. pp. 30–38.

FEDERATION INTERNATIONALE DE LA PRECONTRAINTE. *Proceedings of the FIP Symposium: Concrete sea structures, Tbilisi, September 1972*. Editor: P. V. MAXWELL-COOK. London, 1973. pp. 255.

NAG, P. C. and IYENGAR, P. N. V. Design and construction of reinforced concrete pedestal type foundation for turbo-generators of thermal plants. *The Indian Concrete Journal*. Vol. 47, No. 2. February 1973. pp. 67–72.

OSTENFELD, CHR., FRANDSEN, A. G. and GOTTFREDSEN, H. H. Building a bridge in a Turkish earthquake zone. *Concrete*. Vol. 7, No. 2. February 1973. pp. 20–23.

PANARESE, W. C. Lightweight concrete for pumping. *Concrete Construction*. Vol. 18, No. 4. April 1973. pp. 155–157.

PATERSON, W. S. *Fixings in concrete and masonry: an appraisal of present knowledge*. London, Construction Industry Research and Information Association, 1973. pp. 44. Technical Note TN51.

PCI COMMITTEE ON ARCHITECTURAL PRECAST CONCRETE JOINT DETAILS. Architectural precast concrete joint details. *Journal of the Prestressed Concrete Institute*. Vol. 18, No. 2. March–April 1973. pp. 10–37.

PRESTRESSED CONCRETE INSTITUTE. *PCI post-tensioning manual*. Chicago, 1972. pp. iv, 207.

SHEPHERD, T. D. Repair of a beam. *Concrete*. Vol. 7, No. 4. April 1973. pp. 37–40.

TAEGER, E. Spritzbeton: Maschinen und Verfahren. (Shotcrete: equipment and techniques.) *Beton: Herstellung, Verwendung*. Vol. 23, No. 6. June 1973. pp. 261–264.

Formwork

LINDER, R. Trennmittel für Betonschalungen und -Formen. (Release agents for concrete formwork and moulds.) *Beton- und Stahlbetonbau*. Vol. 68, No. 1. January 1973. pp. 9–21.

DESIGN

- AAS-JAKOBSEN, K. and GRENACHER, M. *Berechnung unelastischer Rahmen nach der Theorie 2. Ordnung*. (Analysis of inelastic frames: second-order effects.) Zurich, Institut für Baustatik ETH, 1973. pp. 35. Bericht Nr. 45.
- ALLEN, M. H., GAVARINI, C. and VENEZIANO, D. Structural safety – a literature review. Discussion. *Proceedings of the American Society of Civil Engineers*. Vol. 99, No. ST1. January 1973. pp. 217–220.
- ACI COMMITTEE 443 (CORLEY, W. G., Chairman). Preliminary design and proportioning of reinforced concrete bridge structures. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 5. May 1973. pp. 328–336.
- AMERICAN CONCRETE INSTITUTE. *Analysis of structural systems for torsion*. Detroit, 1973. pp. v, 438. Special Publication SP-35.
- AMERICAN CONCRETE INSTITUTE. *Concrete for nuclear reactors*. (Proceedings of an international seminar at the Bundesanstalt für Materialprüfung, Berlin, October 1970.) Detroit, 1972. Vol. 1. pp. x, 1–638. Vol. 2. pp. x, 639–1172. Vol. 3. pp. x, 1173–1736. Special Publication SP-34.
- AMERICAN CONCRETE INSTITUTE. *Response of multistory concrete structures to lateral forces*. Detroit, 1972. pp. 314. Special Publication SP-36.
- ANON. Floating breakwaters. *N.Z. Concrete Construction*. Vol. 17, No. 2. April 1973. pp. 18–19.
- ANON. How does reinforcement detailing influence structural strength? *Building Research and Practice*. Vol. 1, No. 3. May/June 1973. pp. 138–147.
- BAUMANN, T. *Tragwirkung orthogonaler Bewehrungsnetze beliebiger Richtung*. (Loadbearing action of orthogonal mesh reinforcing systems of any direction in flat reinforced concrete structures.) Berlin, Wilhelm Ernst und Sohn, 1972. pp. 53. Stahlbeton Heft 217.
- BAUS, R. and BRENNEN, A. *Note sur le béton armé et précontraint*. (Report on reinforced and prestressed concrete.) Liège, University of Liège, 1972. pp. 89. Mémoires C.E.R.E.S. (New series) No. 40.
- BAY, H. Eine praktische Anwendung der konformen Abbildung $Z = z^2$. (A practical application of the conformal mapping $Z = z^2$.) *Beton- und Stahlbetonbau*. Vol. 68, No. 4. April 1973. pp. 86–91.
- BEEBY, A. W. and TAYLOR, H. P. J. Some aspects of the interaction between reinforcement and concrete. *Civil Engineering and Public Works Review*. Vol. 68, No. 803. June 1973. pp. 509–511, 513.
- BENNETT, E. W. and VEERASUBRAMANIAN, N. Discussion: Behaviour of nonrectangular beams with limited prestress after flexural cracking. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 3. March 1973. pp. 242–244.
- BOZOZUK, M. *Foundation failure of the Vanklek Hill tower silo*. (Reprinted from Proceedings of ASCE Speciality Conference on Performance of earth and earth-supported structures.) Ottawa, National Research Council of Canada, 1972. pp. 18. Research Paper No. 530.
- BURNETT, E. F. P. Bending – an examination of assumptions. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 2. February 1973. pp. 105–107.
- CARDENAS, A. E., HANSON, J. M., CORLEY, W. G. and HOGNESTAD, E. Design provisions for shear walls. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 3. March 1973. pp. 221–230.
- CARDENAS, A. E. and SOZEN, M. A. Flexural yield capacity of slabs. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 2. February 1973. pp. 124–126.
- CARMICHAEL, D. *Developments in understanding the behaviour and design of slab-column connections*. Sydney, University of Sydney, 1972. pp. 27. Research Report R202.
- DEPARTMENT OF THE ENVIRONMENT. *Prestressed concrete for highway structures*. London, 1973. pp. 23. TM/BE 2/73.
- DEPARTMENT OF THE ENVIRONMENT. *Reinforced concrete for highway structures*. London, 1973. pp. 14. TM/BE/1/73.
- DEUTSCHER NORMENAUSSCHUSS. *Beton- und Stahlbeton-Fertigteil-Normen*. (Standards on concrete and reinforced concrete precast components.) Berlin, Beuth-Vertrieb GmbH, 1971. pp. 287. Taschenbuch 5.
- ELKHOLY, I. A. S. and ROBINSON, H. Analysis of multi-bay coupled shear walls. *Building Science*. Vol. 8, No. 2. June 1973. pp. 153–157.
- FLÜGGE W. *Stresses in shells*. Second edition. Berlin, Springer-Verlag, 1973. pp. xi, 525.
- FRÖHLING, H. and ZELLER, W. Beitrag zur Ermittlung der "Durchstanz" Schubspannungen von Pilsdecken. (The determination of the punching shear stresses in flat slabs.) *Der Bauingenieur*. Vol. 48, No. 3. March 1973. pp. 82–84.
- GROUNI, H. N. Prestressed concrete – a simplified method for loss computation. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 2. February 1973. pp. 108–114.
- HAMPE, E. Beitrag zur Berechnung hoher Industrieschornsteine. (Contribution to the structural analysis of tall industrial chimneys.) *Bauplanung-Bautechnik*. Vol. 26, No. 11. November 1972. pp. 547–549.
- HANDA, I. J. Shear in concrete beam due to concrete floor slab. *Civil Engineering (ASCE)*. Vol. 43, No. 3. March 1973. pp. 86–87.
- HAYMAN, B. and WILBY, C. B. Design of post-tensioned prestressed concrete ties for bridges and shell roofs. Discussion. *Civil Engineering and Public Works Review*. Vol. 68, No. 800. March 1973. pp. 265–267.
- HSU, T. T. C. Post-cracking torsional rigidity of reinforced concrete sections. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 5. May 1973. pp. 352–360.
- JOFRIET, J. C. Short term deflections of concrete flat plates. *Proceedings of the American Society of Civil Engineers*. Vol. 99, No. ST1. January 1973. pp. 167–182.
- KABAILA, A. P. *Integration for finite elements – an algorithm in orthogonal axes*. Kensington, N.S.W., University of New South Wales, 1973. pp. 7, A5, 1. Unicity Report R-99.
- KAWASHIMA, K. and NARUOKA, M. Ermittlung von Einflussflächen schiefwinkliger Platten nach der Methode der finiten Elemente. (Determination of the influence surfaces of skewed slabs by the method of finite elements.) *Der Bauingenieur*. Vol. 48, No. 3. March 1973. pp. 73–78.
- KLAIBER, F. W. Analytical and model studies of prestressed folded plates. *Proceedings of the American Society of Civil Engineers*. Vol. 99, No. ST6. June 1973. pp. 1287–1307.
- KRISHNAMURTHY, D. A theory for the transmission length of prestressing tendons. *The Indian Concrete Journal*. Vol. 47, No. 2. February 1973. pp. 73–80.
- LAMPERT, P. The common diaphragms of the Foce Moesa Viaduct in Switzerland. *Proceedings of the Institution of Civil Engineers. Part 1: Design and Construction*. Vol. 54. February 1973. pp. 71–80.
- LAWTHER, R. E. and SHAW, F. S. *Stability of rigid frames: theory*. Kensington, N.S.W., University of New South Wales, 1972. pp. 26 + 3. Unicity Report R89.
- LEVY, M. and SPIRA, E. Prestressed concrete hollow-block masonry. *Building Science*. Vol. 8, No. 2. June 1973. pp. 187–199.
- LIAUW, T. C. Modern development in structural design concepts for tall buildings. *The Indian Concrete Journal*. Vol. 46, No. 11. November 1972. pp. 454–458, 475.
- LONG, A. E. Punching failure of slabs – transfer of moment and shear. *Proceedings of the American Society of Civil Engineers*. Vol. 99, No. ST4. April 1973. pp. 665–685.
- MCDONALD, J. L. Design of a two-way post-tensioned waffle slab. *Civil Engineering (ASCE)*. Vol. 43, No. 5. May 1973. pp. 64–66.
- McGLURE, G. S., GERSTLE, K. H. and TULIN, L. G. Sustained and cyclic loading of concrete beams. *Proceedings of the American Society of Civil Engineers*. Vol. 99, No. ST2. February 1973. pp. 243–257.

- MARTIN, D. W. and ALBASINY, E. L. Sway frequencies of modular plane frames. *The Structural Engineer*. Vol. 51, No. 6. June 1973. pp. 203–208.
- MEHLHORN, G. and SCHWING, H. Zur Berechnung und Konstruktion von Wandscheiben aus Fertigteilen. (Computation and design of diaphragms made of prefabricated members.) *Betonwerk + Fertigteil-Technik*. Vol. 39, No. 5. May 1973. pp. 360–370.
- MEUZELAAR, L. C. and SMIT, D. R. De invloeden van krimp- en kruipverschijnselen bij betonnen tuibruggen en de mogelijkheid tot eliminatie hiervan. (Influence of shrinkage and creep phenomena in concrete stay bridges and the possibilities of eliminating them.) *Cement*. Vol. 25, No. 6. June 1973. pp. 249–255.
- NETHERCOT, D. A. The effective lengths of cantilevers as governed by lateral buckling. *The Structural Engineer*. Vol. 51, No. 5. May 1973. pp. 161–168.
- ÖDMAN, S. T. A. *Analysis of stresses in a cracked reinforced concrete beam*. Stockholm, Swedish Cement and Concrete Research Institute, 1973. pp. 54. Proceedings Nr. 44.
- PEARCE, D. J. and MATHEWS, D. D. *An appraisal of the design of shear walls in box frame structures*. Croydon, Department of the Environment Property Services Agency, 1973. pp. 41.
- PULMANO, V. A. *Analysis of simply supported box-girder bridges*. Kensington, N.S.W., University of New South Wales, 1972. pp. 17. Uniciv Report R-98.
- RAFLA, K. Hilfsdiagramme zur Vereinfachung der Kippuntersuchung von Stahlbetonbalken. (Charts for simplifying the lateral buckling analysis of reinforced concrete beams.) *Beton- und Stahlbetonbau*. Vol. 68, No. 2. February 1973. pp. 43–47.
- RAINA, V. K. and KITTUR, V. R. Design and construction of two bridges across the Najafgarh drain in Delhi. *The Indian Concrete Journal*. Vol. 46, No. 11. November 1972. pp. 446–453, 474.
- RAJU, N. K. Moment coefficients for the design of rectangular slabs with short discontinuous edges. *The Indian Concrete Journal*. Vol. 46, No. 11. November 1972. pp. 466–468.
- RANGAN, B. V. and HALL, A. S. *The strength of rectangular prestressed concrete beams in combined torsion, bending and shear*. Kensington, N.S.W., University of New South Wales, 1972. pp. 19. Uniciv Report R93.
- REESE, R. C. Safety requirements in structural design and ACI 318-71. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 3. March 1973. pp. 190–198.
- ROTTMAYR, S. Fertigteilfachwerkbinder mit vorgespanntem Untergurt für eine grosse Turnhalle. (Precast trusses with prestressed bottom chords for a large gymnasium.) *Beton- und Stahlbetonbau*. Vol. 68, No. 4. April 1973. pp. 73–76.
- ROWE, R. E. *Trends and needs in concrete bridge design*. (Henry M. Shaw lecture series in civil engineering.) Raleigh, North Carolina State University, 1972. pp. 32.
- SANTHAKUMAR, A. R. and ARUNACHALAM, N. V. Strength and behaviour of single-span, deep reinforced concrete beams. *The Indian Concrete Journal*. Vol. 46, No. 11. November 1972. pp. 459–465, 475.
- SCHLEE, W. Die Ausbreitung der Einzellast in einem Biegeträger. (The spread of the concentrated load in a flexural beam.) *Beton- und Stahlbetonbau*. Vol. 68, No. 2. February 1973. pp. 39–43.
- SRINIVASA RAO, P. and SUBRAHMANYAM, B. V. Trisegmental moment-curvature relations for reinforced concrete members. *Journal of the American Concrete Institute. Proceedings* Vol. 70, No. 5. May 1973. pp. 346–351.
- TATSA, E., YISHAI, O. and LEVY, M. Loss of steel stresses in prestressed concrete blockwork walls. *The Structural Engineer*. Vol. 51, No. 5. May 1973. pp. 177–182.
- TAYLOR, M. E. *A method of measuring the horizontal forces generated by bridge bearings*. Crowthorne, Transport and Road Research Laboratory, 1973. pp. 9 + 16. LR532.
- TSO, W. K. and BISWAS, J. K. General analysis of nonplanar coupled shear walls. *Proceedings of the American Society of Civil Engineers*. Vol. 99, No. ST3. March 1973. pp. 365–380.
- TSO, W. K. and CHAN, P. C. K. Static analysis of stepped coupled walls by transfer matrix method. *Building Science*. Vol. 8, No. 2. June 1973. pp. 167–177.
- UNIVERSITY COLLEGE, CARDIFF. *Advanced applications of finite element techniques to structural mechanics*. (A course held at the University College, Cardiff.) Cardiff, 1973. pp. 198.
- WATSON, J. A. S. and HOLMAN, D. H. The design and construction of the unreinforced concrete pavement for the Kinross-Milnathort By-pass. *The Highway Engineer*. Vol. 20, No. 5. May 1973. pp. 16–24.
- WILLS, J. *A mathematical optimization procedure and its application to the design of bridge structures*. Crowthorne, Transport and Road Research Laboratory, 1973. pp. 28. LR555.

UNPUBLISHED TRANSLATIONS

- AKUS-ELASTIK-SPORTBAU GMBH. *Akus-elastik all-weather surfacing*. Cologne. Translated from the German by C. V. AMERONGEN. London, Cement and Concrete Association, 1972. pp. 10. T3.
- COMMISSIE VOOR UITVOERING VAN RESEARCH. Right girder bridges. (CUR Report No. 55, Translated from the Dutch by K. G. M. LEES.) London, Cement and Concrete Association, 1973. pp. 32. T13.
- GLAUSER, E. C. *Problems of information exchange and data processing in the construction industry*. (Paper presented at Institut de la Construction Métallique of EPFL, 1972.) Translated from the German. London, Cement and Concrete Association, 1973. pp. 26. T12.
- LEWANDOWSKI, R. Comparison of actual structural strength and quality control test results. *Betonstein Zeitung*. Vol. 37, No. 8. August 1971. Translated from the German by C. V. AMERONGEN. London, Cement and Concrete Association, 1973. pp. 9. T9.
- LUHR, H. P. and WESCHE, K. Investigations of flame-cleaned laboratory concrete. *Strasse und Autobahn*. No. 7. 1969. Translated from the German by C. V. AMERONGEN. London, Cement and Concrete Association, 1973. pp. 22. T6.
- MARKESTAD, S. A. Proposal for a reliable method of determining the strength properties of a cement without the use of standard sand. *Zement-Kalk-Gips*. Vol. 25, No. 9. September 1972. Translated from German by C. V. AMERONGEN. London, Cement and Concrete Association, 1973. pp. 18. T15.
- NADAL, J. and URCELAY, J. M. *Tables for the immediate calculation of rectangular sections of reinforced concrete subjected to bending and compound compression*. Translated from the Spanish by H. C. SHAW. London, Cement and Concrete Association, 1967. pp. 52. T4.
- WALZ, K. and SCHAFFLER, H. Compressive strength of concrete in the upper zone after compaction by means of internal vibrators. *Deutscher Ausschuss für Stahlbeton*. Heft No. 135. Translated from the German. London, Cement and Concrete Association, 1973. pp. 7. T7.