

Papers and books on cement and concrete

received in the C&CA Library JANUARY-APRIL 1960*

MATERIALS

Cement

MANUFACTURE

BRANISKI, A. and IONESCU, T. Bariumoxydhaltige feuerfeste Tonerzeemente. (Refractory aluminous cements containing barium oxide.) *Zement-Kalk-Gips*. Vol. 13, No. 3. March 1960. pp. 109-111.

BURGLÉN, L. and LONGUET, P. Détermination chimique du sodium et du potassium dans les matières premières de cimenterie. (Chemical determination of sodium and potassium in cementitious raw materials.) *Revue des Matériaux*. No. 530. November 1959. pp. 257-265.

EIGEN, H. Brennstoffart und Wärmewirtschaft des Zement-Nassdreheofens. (Type of fuel and heat economy of the rotary kiln for cement manufacture by the wet process.) *Tonindustrie Zeitung*. Vol. 84, No. 2. 20th January 1960. pp. 29-35.

FERNÁNDEZ, A. V. Determinación de la sílice libre y de la superficie específica de los crudos, en la fabricación del cemento. (Determination of the free silica and of the specific surface of the raw materials, in the manufacture of cement.) Madrid, Instituto Técnico de la Construcción y del Cemento, 1959. pp. 46. No. 203.

GOES, C. and KEIL, F. Über das Verhalten der Alkalien beim Zementbrennen. (Behaviour of alkalis during the burning of cement.) *Tonindustrie-Zeitung*. Vol. 84, No. 6. 20th March 1960. pp. 125-133.

RICHTER, H. and JOHANSSON, S. Spektrometrische Gesamtanalyse silikatischer Roh- und Werkstoffe. (The complete analysis of silicate-bearing materials by spectrometric methods.) *Tonindustrie Zeitung*. Vol. 84, No. 4. 20th February 1960. pp. 77-88.

PROPERTIES

ANON. Portland blastfurnace slag cement. *The Indian Concrete Journal*. Vol. 33, No. 11. November 1959. pp. 367-368.

BLOEM, D. L. Comparisons of strength development between Portland cement and Portland blast-furnace slag cement. Washington, National Ready Mixed Concrete Association, October 1959. pp. 11. Publication No. 90.

BLONDIAU, L. Bétonnage sous l'eau. Comportement du ciment sursulfaté du ciment de haut fourneau et du ciment portland. (Underwater concreting. Behaviour of supersulphated cement, blastfurnace slag cement and Portland cement.) *Revue des Matériaux*. No. 532. January 1960. pp. 7-11.

COUTINHO, A. DE SOUSA. The influence of the type of cement on its cracking tendency. *RILEM Bulletin*. No. 5 (New series). December 1959. pp. 26-40.

DANIELSSON, U. Cementets hydrationsvärme som funktion av temperatur och vct. (Heat of hydration of cement as a function of temperature and water/cement ratio.) Helsinki, August 1959. pp. S5. 1-2. Paper presented at the Nordic Concrete Research Congress 1959.

FORD, C. L. Study of methods for the flame photometric determination of magnesium oxide in cement. Chicago, Portland Cement Association, January 1960. pp. 30.

HÖGBERG, E. Undersökning av cementets fysikaliska och kemiska förändringar vid lagring under olika förhållanden. (Investigation of the physical and chemical changes in cement stored under different conditions.) Helsinki, August 1959. p. S41. Paper presented at the Nordic Concrete Research Congress 1959.

HRENNIKOFF, A. Shrinkage, swelling and creep in cement. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. EM 3. pp. 111-135.

ILANTZIS, A. Sur la surface spécifique des matières pulvérisées. (The specific surface of pulverized materials.) *Revue des Matériaux*. No. 534. March 1960. pp. 59-66.

MALQUORI, G. Los cementos de alto-horno. (Blastfurnace cements.) *Cemento Hornigón*. Vol. 25, No. 309. December 1959. pp. 694-697.

MAMEDOV, K. H. S., KLEVTSOVA, R. F. and BELOV, N. V. O kristallicheskoj strukture gidrata trekhkal' tsievogo silikta. (On the crystalline structure of tricalcium silicate hydrate.) *Doklady Akademii Nauk S.S.S.R.* Vol. 126, No. 1. 1959. pp. 151-154. Translated from the Russian by G. N. Gibson. Garston, Building Research Station, November 1959. pp. 5. Library Communication No. 926.

MANABE, T. and KAWADA, N. Determination of calcium sulfoaluminate in cement paste by tracer technique. *Journal of the American Concrete Institute*. Vol. 31, No. 1. January 1960. pp. 639-650.

MEYER, E. V. The alkali content of Danish cements. *RILEM Bulletin*. No. 3 (New series). July 1959. p. 99.

MEYER, E. V. A new Danish alkali-resistant cement. *RILEM Bulletin*. No. 3 (New series). July 1959. p. 99.

PORTLAND CEMENT ASSOCIATION. Comparison of requirements for Portland cement of the American Society for Testing Materials, the American Association of State Highway Officials, and the U.S. Government. Chicago, 25th February 1960. pp. 1.

SANTARELLI, L., PISELLI, F. and COVARELLI, C. La mesure de la chaleur d'hydratation des ciments portland et pouzzolaniques. (Measurement of the heat of hydration of Portland and pozzolanic cements.) *Revue des Matériaux*. No. 533. February 1960. pp. 31-42.

STUTTERHEIM, N. Properties and uses of high-magnesia Portland slag cement concretes. *Journal of the American Concrete Institute*. Vol. 31, No. 10. April 1960. pp. 1027-1045.

*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.

TURRIZIANI, R. Sul processo di idratazione del cemento portland. (The process of hydration of Portland cement.) *L'Industria Italiana del Cemento*. Vol. 39, No. 11. November 1959. pp. 276-280.

TYLER, I. L. Long-time study of cement performance in concrete. *Journal of the American Concrete Institute*. Vol. 31, No. 9. March 1960. pp. 825-836.

Aggregates

BLAKEY, F. A. and LEWIS, R. K. Effect of sand characteristics on the cracking of small bars of mortar in which shrinkage is restrained. *Civil Engineering and Public Works Review*. Vol. 55, No. 644. March 1960. pp. 389-393.

ENGSTRÖM, B. and LINDGREN, K. E. Samband mellan egenskaper hos sand och egenskaper hos bruk av masonry-typ. (Relation between the properties of sand and the properties of masonry mortar.) Helsinki, August 1959. p. S16. Paper presented at the Nordic Concrete Research Congress 1959.

HAGERMAN, T. Undersökning av ballastmaterial för betong. (Investigation of concrete aggregate.) Helsinki, August 1959. p. S17. Paper presented at the Nordic Concrete Research Congress 1959.

JORDAN, J. P. R. and SELLARS, J. The effects of mixtures of crushed and uncrushed gravel on the properties of concrete. Part 1. London, Sand and Gravel Association of Great Britain, 1959. pp. 16. Research Department Bulletin No. 2.

KORDINA, K. Experiments on the influence of the mineralogical character of aggregates on the creep of concrete. *RILEM Bulletin*. No. 6 (New series). March 1960. pp. 7-22.

LONG, L. D. and CLEMENTS, J. R. Aggregates and aggravations of heavy-weight concrete. *Civil Engineering*. Vol. 29, No. 12. December 1959. pp. 62-64.

MEYER, E. V. and GROTH-ANDERSEN, H. Sammenligning mellem styrker opnået med danske og norske tilslagsmaterialer i forbindelse med normer for prøvning af cement. (Comparison of the strengths obtained with Danish and Norwegian aggregates in connexion with standards for cement testing.) Helsinki, August 1959. p. D3. Paper presented at the Nordic Concrete Research Congress 1959.

MLONKA, K. and WALACH, L. Lekkie kruszywo glincowe. (Light expanded clay aggregates.) *Archiwum Inżynierii Ladowej*. Vol. 5, No. 4. 1959. pp. 521-537.

SCHUBERT, K. Einfluss von Lagerungsdichte und Normalspannung auf die Scherfestigkeit von Sand. (Influence of compactness and normal stress on the shearing strength of sand.) *Wissenschaftliche Zeitschrift der Hochschule für Architektur und Bauwesen Cottbus*. No. 2. 1958/9. pp. 149-156.

THOMSON, R. O. C. Limits in the gradings of aggregate deliveries. *The Civil Engineer*. Vol. 14, No. 1. January 1960. pp. 32-33.

WEBB, T. L. Shrinking aggregates in the construction industry in South Africa. *Industrial Review of Africa*. Vol. 10, No. 10. April 1959. pp. 9. (Reprint.)

Reinforcement

BERGSTRÖM, S. G. Korrosion på ingjutet stål. (Corrosion of steel with injection of grout.) Helsinki, August 1959. pp. S1. 1-2. Paper presented at the Nordic Concrete Research Congress 1959.

BLOM, K. J. Om temperaturrens inverkan på krypegenskaperna hos patenterad dragen tråd av eutektoid sammansättning. (The effect of temperature on the creep properties of patented drawn wire of eutektoid composition.) Helsinki, August 1959. pp. S14. 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

BRATT, J. F. and MARKESTAD, A. Bruddrisiko ved boyning av kamstäl ved vintertemperatur. (Risk of rupturing deformed bars when bent at low winter temperatures.) *Betongen Idag*. Vol. 24, No. 4. 1959. pp. 84-86.

CHAGNEAU, A. Etude de la relaxation d'un fil d'acier à partir de la mesure de sa fréquence de vibration transversale. (Study of the relaxation of a steel wire based on the measurement of its cross vibration frequency.) *RILEM Bulletin*. No. 3 (New series). July 1959. pp. 83-94.

CUSSINO, L. Contributo alla misura dell'aderenza al ferro delle malte cementizie. (Contribution to the measurement of the bond between steel and cement mortar.) *Il Cemento*. Vol. 56, No. 12. December 1959. pp. 19-23.

GRANHOLM, H. and NILSSON, S. Undersökning av tryckarmeringens effektivitet. (Investigation of the efficiency of compression reinforcement.) Helsinki, August 1959. pp. S23. 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

HEUZE, M. Le problème de la corrosion sous tension des aciers de précontrainte. (The problem of corrosion of prestressing steel under tension.) *Travaux*. Vol. 43, No. 302. December 1959. pp. 707-708.

KUDRYAVTSEV, A. A. On the degree of loss of stress of reinforcement of prestressed keramzite concrete. *Beton i Zhelezobeton*. No. 11. 1959. pp. 511-513. (In Russian.)

SENNESET, K. Sammenligning mellom kvalitetstall for betong målt ved forskjellige prøvemeter. (Comparison of high-grade steel reinforcement by different methods of testing.) Helsinki, August 1959. pp. N9. 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

Admixtures

ALBRECHT, W. Einfluss von Luftporenbildnern und Farbstoffen auf die Formänderung, Härte und Festigkeit von Strassenbeton. (Influence of air-entraining agents and pigments on the deformation, hardness and strength of road concrete.) *Strasse und Autobahn*. Vol. 10, No. 11. November 1959. pp. 429-434.

ENGSTRÖM, B. and PERSSON, F. Olika tillsatsmedels inverkan på betong. (The effect of different admixtures on concrete.) Helsinki, August 1959. p. S15. Paper presented at the Nordic Concrete Research Congress 1959.

MALQUORI, G., SERSALE, R. and GREGORIO, E. Il rilevamento del valore idraulico delle loppe di alto forno. (The determination of the reactivity of blastfurnace slag.) *L'Industria Italiana del Cemento*. October/November 1951. (Reprint.) Translated from the Italian, by L. M. L. Booth. Garston, Building Research Station, August 1959. pp. 23. Library Communication No. 908.

MENG, W. VON. Die Bedeutung von Chloriden als Zusatzmittel für Zementmörtel, Beton und Stahlbeton. (The importance of chlorides as an additive to cement mortar, concrete and reinforced concrete.) *Betonstein Zeitung*. Vol. 26, No. 3. March 1960. pp. 113-115.

MUSTARD, J. N. and MACINNIS, C. The use of fly ash in concrete by Ontario Hydro. *Engineering Journal*. Vol. 42, No. 12. December 1959. pp. 74-79.

PURI, M. L. and SRINIVASAN, N. R. Effect of partial replacement of cement with surkhi on various properties of pavement concrete. *Indian Roads Congress Road Research Bulletin*. No. 6. December 1959. pp. 175-198.

RAYMOND, S. Laboratory and field tests on cement-stabilised pulverised fuel ash. *Civil Engineering and Public Works Review*. Vol. 55, No. 645. April 1960. pp. 513-516.

RODRIGUES, F. P. Contribution for knowing the influence of a plasticizing agent on the creep and shrinkage of concrete. *RILEM Bulletin*. No. 6 (New series). March 1960. pp. 39-46.

SENNESET, K. Kalsiumkloridtilsetning til betong. (Addition of calcium chloride to concrete.) Helsinki, August 1959. pp. N8. 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

STHYR, V. and GROTH-ANDERSEN, H. Kalsiumklorids indflydelse på armeringsjern. (Effect of calcium chloride on steel reinforcement.) Helsinki, August 1959. p. D11. Paper presented at the Nordic Concrete Research Congress 1959.

VUORINEN, J. Undersökning av finska sulfitlutens användningsmöjligheter som retarderande tillsatsmedel vid betonggjutning. (Investigation of the possibility of using Finnish sulphite lye as a retarder in casting concrete.) Helsinki, August 1959. pp. E 18, 25. 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

WARRIS, B. Tillsatsmedelsundersökning. (Investigation of concrete admixtures.) Helsinki, August 1959. p. S12. Paper presented at the Nordic Concrete Research Congress 1959.

CONCRETE

Mix design and quality control

BLOEM, D. L. *Review of current and projected researches.* Washington, National Ready Mixed Concrete Association, 1960. pp. 15.

CORDON, W. A. Evaluation of concrete and mortar mixes. *Journal of the American Concrete Institute.* Vol. 31, No. 7. January 1960. pp. 569–580.

MÖLLER, G. *Materialproblem vid vinterbetongarbeten.* (Problems of the materials for winter concreting.) Helsinki, August 1959. pp. S9. 1–2. Paper presented at the Nordic Concrete Research Congress 1959.

PIHLAJAVAARA, S. E. Lisänäkökohtia betonin laadun tarkkailusta. (Some further points on concrete quality control.) *Rakennus Insinööri.* Vol. 16, No. 2. 1960. pp. 45–46.

POULSEN, E. Grussammensætning ved mindste kvadraters metode. (Aggregate combination by method of least squares.) *Nordisk Betong.* Vol. 4, No. 1. 1960. pp. 59–67.

SARETOK, V. Activation of mortars. *RILEM Bulletin.* No. 5 (New series). December 1959. pp. 49–58.

SHIDELER, J. J. Designing mixes for normal weight and light-weight concrete. *Journal of the Research and Development Laboratories (PCA).* Vol. 2, No. 1. January 1960. pp. 11–14.

Properties

ALEXANDER, K. M. Strength of the cement-aggregate bond. *Journal of the American Concrete Institute.* Vol. 31, No. 5. November 1959. pp. 377–390.

ANGERVO, K. Om hållfasthetsegenskap hos betong i enoch tvåaxliga spänningstillstånd. (On the strength properties of concrete subjected to stressing along one and two axes.) Helsinki, August 1959. p. F22. Paper presented at the Nordic Concrete Research Congress 1959.

ANON. Aggression due to the attack of corrosive waters on mortar and concrete. *Corrosion Technology.* Vol. 7, No. 3. March 1960. p. 93.

ANON. The workability of concrete. *Research and Application.* No. 11. January 1960. pp. 8.

AU, T. and BAIRD, D. L. Bearing capacity of concrete blocks. *Journal of the American Concrete Institute.* Vol. 31, No. 9. March 1960. pp. 869–879.

CHEFDEVILLE, M. J. Béton de blocage et mortiers activés. (Rubble concrete and activated mortars.) *Annales de l'Institut Technique du Bâtiment et des Travaux Publics.* No. 144. December 1959. pp. 1314–1332. Béton, Béton Armé 53.

COLGATE, D. Cavitation damage of roughened concrete surfaces. *Proceedings of the American Society of Civil Engineers.* Vol. 85, No. HY11. November 1959. pp. 1–10.

CRØNER, CHR. F. Langtidsforsøk med betong. (Long-period experiment on concrete.) Helsinki, August 1959. pp. N5. 1–5. Paper presented at the Nordic Concrete Research Congress 1959.

DANIELSSON, U. Sambandet mellan hållfasthetstillväxten hos betong och hydratationsförloppet. (Relation between the growth of strength of concrete and its hydration.) Helsinki, August 1959. p. S6. Paper presented at the Nordic Concrete Research Congress 1959.

DUHOUX and TESSIER. Essais de traction-flexion. Etude sur l'influence de la vitesse de chargement. (Tension bending tests. Study on the influence of the speed of loading.) *RILEM Bulletin.* No. 6 (New series). March 1960. pp. 47–52.

FORSS, B. Undersökningen rörande cementets inverkan på betongens frostbeständighet. (Investigation concerning the effect of the cement on the frost resistance of concrete.) Helsinki, August 1959. p. F12. Paper presented at the Nordic Concrete Research Congress 1959.

FREUDENTHAL, A. M. and ROLL, F. Fluage et déformation de retour du béton à des taux de compression élevés. (Creep and creep recovery of concrete under high compressive stress.) *RILEM Bulletin.* No. 3 (New series). July 1959. pp. 32–59.

GLUCKLICH, J. The influence of sustained loads on the strength of concrete. *RILEM Bulletin.* No. 5 (New series). December 1959. pp. 14–17.

HANSEN, T. C. Krypning hos betong. Inflytandet av variationer i omgivningens relativa luftfuktighet. (Concrete creep. The effect of variations in the relative humidity of the environment.) Helsinki, August 1959. pp. S7. 1–3. Paper presented at the Nordic Concrete Research Congress 1959.

HOUGHTON, D. L. Field study of interior temperatures in concrete. *Proceedings of the American Society of Civil Engineers.* Vol. 85, No. PO 5. October 1959. pp. 21–43.

IDORN, G. M. Forvitring af beton studeret ved petrografiske metoder. (Weathering of concrete studied by petrographical methods.) Helsinki, August 1959. p. D31. Paper presented at the Nordic Concrete Research Congress 1959.

KAPLAN, M. F. Effects of incomplete consolidation on compressive and flexural strength, ultrasonic pulse velocity, and dynamic modulus of elasticity of concrete. *Journal of the American Concrete Institute.* Vol. 31, No. 9. March 1960. pp. 853–867.

KOČÍ, B. Působení vysokých teplot na beton. (Influence of high temperatures on concrete.) *Inženýrské Stavby.* Vol. 7, No. 12. 1959. pp. 448–453.

KOVACS, J. Rezultati proizvodnje betona u Madjarskoj otpornog na kiseline. (Results from the manufacture of acid-resistant concrete in Hungary.) *Zaštita Materijala.* Vol. 7, No. 9–10. September–October 1959. pp. 471–474.

LEVY, M. The permeability and absorption of precast concrete products. *Civil Engineering and Public Works Review.* Vol. 55. No. 642. January 1960. pp. 88–92. No. 643. February 1960. pp. 248–251.

LICHTENBERG, S. Statistisk brudhypotese for beton. (A statistical hypothesis for rupture in concrete.) *Nordisk Betong.* Vol. 3, No. 4. 1959. pp. 317–336.

LUDERA, L. Feuerbeton auf Portlandzement-Basis. (Refractory concrete based on Portland cement.) *Zement-Kalk-Gips.* Vol. 12, No. 12. December 1959. pp. 575–580.

LYSE, I. Shrinkage and creep of concrete. *Journal of the American Concrete Institute.* Vol. 31, No. 8. February 1960. pp. 775–782.

MAMILLAN, M. A study of the creep of concrete. *RILEM Bulletin.* No. 3 (New series). July 1959. pp. 15–31.

MATIC, V. Influence de l'âge sur le béton de ciment alumineux. (Influence of age on aluminous cement concrete.) *RILEM Bulletin.* No. 6 (New series). March 1960. pp. 33–38.

MUSLEH, F. E. and GUTZWILLER, M. J. The effects of freezing and thawing of prestressed concrete. *Proceedings of the 45th Annual Road School, Purdue University,* 1959. pp. 113–130. Engineering Extension Department. Extension Series No. 100.

NEVILLE, A. M. Test on the influence of the properties of cement on the creep of mortar. *RILEM Bulletin.* No. 4 (New series). October 1959. pp. 5–17.

NIELSEN, K. E. C. Undersökning av egenspanningar i betong. (Investigation of the internal stresses in concrete.) Helsinki, August 1959. pp. S10. 1–2. Paper presented at the Nordic Concrete Research Congress 1959.

NIELSEN, K. E. C. Revne-og krakeleringstendens hos cement-mortel og beton. (Tendency for cracks and hair cracks to form in cement mortar and concrete.) Helsinki, August 1959. pp. D4. 1–2. Paper presented at the Nordic Concrete Research Congress 1959.

NIELSEN, K. E. C. and GROTH-ANDERSEN, H. Betons bestandighet over for ostesaltlage og varm cellulosemasse. (Durability of concrete as regards cheese brine and hot cellulose pulp.) Helsinki, August 1959. pp. D7, D8. 1–2. Paper presented at the Nordic Concrete Research Congress 1959.

- NIELSEN, K. E. C. and STHYR, V. Betons frostbestandighet i havvand. (Frost resistance of concrete in sea water.) Helsinki, August 1959. pp. D32. 1-2. Paper presented at the Nordic Concrete Research Congress 1959.
- OHNO, K. and SHIBATA, T. On extensibility of fresh concrete under slowly increasing tensile loads. *RILEM Bulletin*. No. 4 (New series). October 1959. pp. 24-31.
- PEÑA, C. DE LA. Shrinkage and creep of specimens of thin section. *RILEM Bulletin*. No. 3 (New series). July 1959. pp. 60-70.
- PETTERSSON, O. Forskningsuppgift: Krympning av betongbalk vid ensidig temperaturinverkan. (Shrinkage of a concrete beam subjected to unilateral temperature effect.) Helsinki, August 1959. pp. S28. 1-2. Paper presented at the Nordic Concrete Research Congress 1959.
- PIHLAJAVAARA, S. E. Betong som strålningsskyddsmaterial. (Concrete as radiation shield.) Helsinki, August 1959. pp. F1. 1-2. Paper presented at the Nordic Concrete Research Congress 1959.
- PLOWMAN, J. M. Concrete strength near freezing point. *Engineering*. Vol. 189, No. 4891. 15th January 1960. pp. 78-79.
- PLUM, N. M. Danske undersøgelser vedrørende alkalireaktioner i beton. (Danish investigations of alkali reactions in concrete.) Helsinki, August 1959. p. D27. Paper presented at the Nordic Concrete Research Congress 1959.
- PONOMARIEV, K. K. Anti-radiation concrete. *Archiwum Inżynierii Ladowej*. No. 4. 1959. pp. 463-519.
- RASHEEDUZZAFAR. The mechanics of autogenous healing of concrete. *The Indian Concrete Journal*. Vol. 34, No. 1. January 1960. pp. 24-26.
- REINER, M. Deformation, strain and flow. 2nd edition. London, H. K. Lewis, 1959. pp. ix, 347.
- ROPER, H. *Shrinking aggregates in concrete*. Pretoria, National Building Research Institute, 1959. pp. 136. C.S.I.R. Special Technical Report No. 502.
- ROSTÁSY, F. S. Zur Theorie der Austrocknung und des Schwindens zementgebundener Massen. (Contribution concerning the theory of drying-out and shrinkage of cementitious masses.) *Zement-Kalk-Gips*. Vol. 13, No. 3. March 1960. pp. 93-103.
- SCHULZE, W. Der Einfluss des Feinstkorns auf die Eigenschaften des Betons. (The influence of the ultra-fine aggregate particles on the properties of concrete.) *Beton Herstellung Verwendung*. Vol. 10, No. 2. February 1960. pp. 45-52.
- SCHULZE, W. and ALTNER, W. Die Frostbeständigkeit des Betons unter besonderer Berücksichtigung des Feinstkorns. (Frost resistance of concrete with special reference to super-fine grain.) *Bauplanung Bautechnik*. Vol. 14, No. 3. March 1960. pp. 115-120.
- SELL, R. Investigations into the strength of concrete under sustained load. *RILEM Bulletin*. No. 5 (New series). December 1959. pp. 5-13.
- SENNESET, K. Analyse av fersk og herdnet betong. (Analysis of fresh and hardened concrete.) Helsinki, August 1959. pp. N7 1-3. Paper presented at the Nordic Concrete Research Congress 1959.
- SERAFIM, J. L. and GUERREIRO, M. O. Influence of temperature on the creep of mass concrete. *RILEM Bulletin*. No. 6 (New series). March 1960. pp. 23-32.
- STHYR, V. and NIELSEN, K. E. C. Relation mellem 3, 7 og 28 døgns bøjningstrækkstyrke. (Relation of 3-, 7- and 28-day bending-tensile strengths.) Helsinki, August 1959. pp. D9 1-2. Paper presented at the Nordic Concrete Research Congress 1959.
- TITUS, F. Shielding properties of concrete. *Civil Engineering*. Vol. 29, No. 12. December 1959. pp. 65-66.
- WALKER, S., BLOEM, D. L. and GAYNOR, R. D. *Relationships of concrete strength to maximum size of aggregate*. Washington, National Sand and Gravel Association and National Ready Mixed Concrete Association, August 1959. pp. 19. Joint Research Laboratory Publication No. 7.
- WALKER, S., BLOEM, D. L. and GAYNOR, R. D. Relationships of concrete strength to maximum size of aggregate. *Proceedings of the thirty-eighth annual meeting of the Highway Research Board, Washington*, 1959. pp. 367-385.
- WAUGH, W. R. and RHODES, J. A. Control of cracking in concrete gravity dams. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. PO 5. October 1959. pp. 1-20.
- WEIL, G. Influence des dimensions et des contraintes sur le retrait et le fluage du béton. (Influence of dimensions and stress on the shrinkage and creep of concrete.) *RILEM Bulletin*. No. 3 (New series). July 1959. pp. 4-14.

Curing

- KROONE, B. and BLAKEY, F. A. Reaction between carbon dioxide gas and mortar. *Journal of the American Concrete Institute*. Vol. 31, No. 6. December 1959. pp. 497-510.
- MIRONOV, S. A. and GANIN, V. P. Calculating concrete curing times—hardening of concrete at sub-zero temperatures. *Contractors Record and Municipal Engineering*. Vol. 70, No. 50. 16th December 1959. pp. 19-23.
- TOENNIES, H. T. Artificial carbonation of concrete masonry units. *Journal of the American Concrete Institute*. Vol. 31, No. 8. February 1960. pp. 737-755.

TESTING

General

- JANES, R. L. The Portland Cement Association mobile transportation laboratory. *Journal of the Research and Development Laboratories (PCA)*. Vol. 2, No. 1. January 1960. pp. 15-18.
- NATIONAL READY MIXED CONCRETE ASSOCIATION. *Tentative recommendations for facility requirements for testing concrete*. Washington, July 1959. pp. 11. Publication No. 89.

Structural

- ABRAHAMSSON, A. E. Försök med korsarmerade betongplattor belastade med luftstöt vågor. (Tests of cross-reinforced concrete slabs subjected to pneumatic impact waves.) Helsinki, August 1959. pp. S34 1-2. Paper presented at the Nordic Concrete Research Congress 1959.
- ANON. Tests of prestressed columns of precast concrete blocks. *Chinese Journal of Civil Engineering*. No. 11. 1959. pp. 915-923. (In Chinese.)
- BJUGGREN, U. Provbastning av slakarmerade betongbalkar med högverdiga, klana stålstänger. (Test loading of singly reinforced concrete beams containing high-tensile thin steel rods.) Helsinki, August 1959. pp. S59 1-3. Paper presented at the Nordic Concrete Research Congress 1959.
- KARTSIVADZE, G. N., KVITSARIDZE, O. I. and others. The influence of temperature and moisture conditions on the increase of deflexion of reinforced concrete units in bending under sustained loading. *Beton i Zhelezobeton*. No. 1. 1960. pp. 27-31. (In Russian.)
- KRISTEN, TH. and WIERIG, H. J. Der Einfluss hoher Temperaturen auf Bauteile aus Spannbeton. (The influence of high temperatures on prestressed concrete structural members.) *Der Bauingenieur*. Vol. 35, No. 1. January 1960. pp. 6-11.
- JOHANSEN, R. Sprengningsfaren ved frysning av injeksjonsmasser i kabelbetongkonstruksjoner. (Risk of bursting on freezing of injected grout in wire cable reinforcement of prestressed concrete structural members.) Helsinki, August 1959. pp. N6 1-5. Paper presented at the Nordic Concrete Research Congress 1959.
- KURYLO, A. and DOROSZKIEWICZ, L. O zjawiskach występowania belek żelbetonowych. (Symptoms appearing in the zone of the highest shearing forces while breaking reinforced concrete beams.) *Inżynieria i Budownictwo*. Vol. 16, No. 10. 1959. pp. 452-454.
- MATTOCK, A. H. and KAAR, P. H. Continuous precast-prestressed concrete bridges. *Journal of the Research and Development Laboratories (PCA)*. Vol. 2, No. 1. January 1960. pp. 23-27.

RENZ, C. F. Construction of a prestressed concrete test pavement. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. AT 4. October 1959. pp. 25-39.

RENZULLI, T. Prova a rottura di un arco incastrato in conglomerato armato (Test to failure of a fixed arch made of reinforced concrete.) *Giornale del Genio Civile*. Vol. 97, No. 10. October 1959. pp. 864-870.

ROWE, R. E. Loading tests on two prestressed concrete highway bridges. *Proceedings of the Institution of Civil Engineers*. Vol. 13. August 1959. pp. 477-498.

SCORDELIS, A. C., LIN, T. Y. and ITAYA, R. Behavior of a continuous slab prestressed in two directions. *Journal of the American Concrete Institute*. Vol. 31, No. 6. December 1959. pp. 441-459.

Methods

ANON. Verwendung eines genormten Betonprüfkörpers zum Vergleich von Festigkeitsergebnissen von Strassenbeton in verschiedenen Ländern. (The use of a standardised concrete test specimen for the comparison of the strengths of road-building concrete in different countries.) *Strasse und Autobahn*. Vol. 11, No. 1. January 1960. pp. 19-22.

BOSSI, J. Prove su cementi espansivi. (Mechanical test on expansive cement.) *Il Cemento*. Vol. 54, No. 10. October 1959. pp. 3-4.

COMMISSIE VOOR UITVOERING VAN RESEARCH INGESTELD DOOR DE BETONVERENIGING. Niet-destructief onderzoek van beton. (The non-destructive testing of concrete.) Part 2. The Hague, Betonvereniging, 1960. pp. 150. CUR Report No. 18.

DUTRON, R. Das RILEM-Cembureau-Verfahren zur Prüfung der Festigkeit von Zement. (The RILEM-Cembureau method for testing the strength of cement.) *Zement-Kalk-Gips*. Vol. 13, No. 2. February 1960. pp. 64-70.

HALLSTRÖM, P. Bestämning av den färiska betongens bearbetbarhet med olika mätapparater. (Determination of the workability of fresh concrete using different testing apparatus.) Helsinki, August 1959. pp. S18 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

HIGGINSON, E. C. and WALLACE, G. B. Control testing for separation of lightweight material from aggregate. *ASTM Bulletin*. No. 243. January 1960. pp. 60-67.

KAZIMIERCZAK, R. Przyrząd do pomiaru modułu sprężystości betonu. (Instruments for measuring the modulus of elasticity in concrete.) *Inżynieria i Budownictwo*. Vol. 16, No. 10. 1959. p. 455.

KEIL, F. and MATHIEU, H. Prüfung von Zement nach dem RILEM-CEM-Verfahren. (Testing of cement by the RILEM-CEM method.) *Zement-Kalk-Gips*. Vol. 13, No. 2. February 1960. pp. 70-74.

KRAMER, J. Untersuchungen an Zement und Beton mit Exoelektronen nach Röntgenbestrahlung. (Investigations on cement and concrete with exo-electrons after exposure to X-rays.) *Zement-Kalk-Gips*. Vol. 13, No. 3. March 1960. pp. 111-118.

MONTERA, M. de. Dilatomètre à trépied optique: résultats expérimentaux sur ciments et bétons. (The optical tripod dilatometer: experimental results with cements and concretes.) *Annales de l'Institut Technique du Bâtiment et des Travaux Publics*. Vol. 13, No. 145. January 1960. pp. 48-57. Essais et Mesures 45.

PIHLAJAVAARA, S. E. Valmiin betonirakenteen terästen ja niiden sijainnin tutkiminen ainetta särke-mättömien menetelmien avulla. (The locating of reinforcing bars in structures using non-destructive methods.) *Rakennus Insinööri*. Vol. 16, No. 2. 1960. pp. 40-42.

VENUAT, M. Essais de prise et d'expansion sur mortier 1/3 ISO-Cembureau-RILEM. (Tests for setting expansion of ISO-Cembureau-RILEM 1/3 mortar mixtures.) *Revue des Matériaux*. No. 532. January 1960. pp. 1-6.

UUORINEN, J. Undersökning av förhållandet mellan tryckhållfasthetsvärdena erhållna vid användning av $\varnothing 15 \times 30$ cm cylindrar och 20 cm kuber. (Investigation of the relation between the results of compressive strength tests obtained with 15×30 cm cylinders and 20 cm cubes.) Helsinki, August 1959. pp. F15 1-3. Paper presented at the Nordic Concrete Research Congress 1959.

UUORINEN, J. Statistisk undersökning av tryckytornas planhet hos 20 cm s.k. plangjutna kuber, tillverkade i järnformer, samt undersökning av inverkan av tryckytornas planhetsavvikning på tryckhållfasthetsvärden. (Statistical investigation of the degree to which the compression surfaces of "plane" 20-cm cubes, cast in steel moulds, are plane, and determination of the effect on the results of compressive strength tests due to a deviation of the test surfaces in the given respect.) Helsinki, August 1959. pp. F16 1-2. Paper presented at the Nordic Concrete Research Congress 1959.

Models

BROCK, G. Effect of shear on ultimate strength of rectangular beams with tensile reinforcement. *Journal of the American Concrete Institute*. Vol. 31, No. 1. January 1960. pp. 619-637.

LISOWSKI, A. Knickung und Schwingungen von Schalen im Lichte der Modellprüfung. (Buckling and vibration of shells in the light of tests with models.) *Der Bauingenieur*. Vol. 35, No. 3. March 1960. pp. 86-89.

OLEDKI, E. Kilka uwag o badaniu modeli wykonanych z materiałów plastycznych. (A few remarks concerning the examination of models made of plastic.) *Inżynieria i Budownictwo*. Vol. 17, No. 2. 1960. pp. 56-57.

PERUCCI, G. Determinazione sperimentale del comportamento d'insieme su di un modello di struttura da ponte. (Experimental findings on the whole conduct of model of a bridge.) *Il Cemento*. Vol. 57, No. 2. February 1960. pp. 13-17, 37.

ROWE, R. E. Work on models in the Cement and Concrete Association. *Journal of the Research and Development Laboratories (PCA)*. Vol. 2, No. 1. January 1960. pp. 4-10.

SZULC, J. Zastosowanie praw podobieństwa w badaniach konstrukcji na modelach. (Application of the laws of similitude in the model testing of structures.) *Inżynieria i Budownictwo*. Vol. 16, No. 10. 1959. pp. 444-452.

UPPENBERG, M. Modellförsök rörande snedvinkliga plattbräor. (Model experiments for skew slab-frame bridges.) Helsinki, August 1959. p. S32. Paper presented at the Nordic Concrete Research Congress 1959.

VARGHESE, P. C. Testing model concrete barrel shells. *The Indian Concrete Journal*. Vol. 33, No. 12. December 1959. pp. 447-449.

Apparatus

CARMICHAEL, A. J. The use of wire resistance strain gauges for measuring surface strains in concrete members. *Constructional Review*. Vol. 32, No. 12. December 1959. pp. 28-37.

KUBITSCHKE, H. E. Electronic measurement of particle size. *Research applied in Industry*. Vol. 13, No. 4. April 1960. pp. 128-135.

ØFJORD, A. Spenningsmåler for Betong. (Strain gauge for concrete.) Helsinki, August 1959. pp. N3 1-4. Paper presented at the Nordic Concrete Research Congress 1959.

DESIGN

ALBIGES, M. and FREDRIKSEN, M. Calcul à la rupture des dalles par la théorie de Johansen. (Johansen's yield-line theory for slabs.) *Annales de l'Institut Technique du Bâtiment et des Travaux Publics*. Vol. 13, No. 145. January 1960. pp. 134-147. Béton, Béton Armé 54.

ALLEN, D. N. de G. and SEVERN, R. T. The stresses in foundation rafts. I. *Proceedings of the Institution of Civil Engineers*. Vol. 15. January 1960. pp. 35-48.

ALSLOG, BLITHEWAY and CUSDWRIGHT. Philosophy of direct design. *Prestress*. Vol. 9, No. 2. February 1960. pp. 20.

- AMSTAD, R. J. Ultimate strength design of rectangular cross sections under bending with tensile steel only. *Journal of the American Concrete Institute*. Vol. 31, No. 9. March 1960. pp. 884-886.
- ANGEROVO, K. On the accounting of crack formation in the statical treatment of masonry structures. *RILEM Bulletin*. No. 3 (New series). July 1959. pp. 71-82.
- ANGEROVO, K. Om bärfkraften hos en betongvägg och en centriskt armerad stålbetongvägg. (On the strength under load of a concrete wall and a reinforced concrete wall containing axial reinforcement.) Helsinki, August 1959. p. F23. Paper presented at the Nordic Concrete Research Congress 1959.
- ANON. A prismatic-slab foundation raft. *Concrete and Constructional Engineering*. Vol. 55, No. 2. February 1960. pp. 99-100.
- ARCHER, F. E. and KITCHEN, E. M. Stress distributions in deep beams. *Civil Engineering and Public Works Review*. Vol. 55, No. 643. February 1960. pp. 230-234.
- BAKER, A. L. L. Ultimate load theory for concrete frame analysis. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST9. November 1959. pp. 1-29.
- BALINT, P. S. Evaluation of the flexural rigidity of slabs. *Constructional Review*. Vol. 32, No. 12. December 1959. pp. 18-25.
- BANERJEE, S. P. Direct analysis of doubly-curved shells. *The Indian Concrete Journal*. Vol. 33, No. 12. December 1959. pp. 417-418.
- BARTEL, W. Ein Beitrag zum Thema Hängedachkonstruktionen. (Contribution on suspended roof construction.) *Wissenschaftliche Zeitschrift der Hochschule für Architektur und Bauwesen Cottbus*. No. 2. 1958/9. pp. 175-179.
- BÉLA, G. Traglast zentrisch gedrückter Stahlbetonsäulen. (Ultimate load of axially loaded reinforced concrete columns.) *Bauplanung Bautechnik*. Vol. 14, No. 1. January 1960. pp. 25-28.
- BERNHARDT, C. J. Skjærkraftbrudd ved spennbetong. (Failure of prestressed (wire-reinforced) concrete in shear.) Helsinki, August 1959. pp. N10 1-5. Paper presented at the Nordic Concrete Research Congress 1959.
- BHARUCHA, J. N. A proposed classification of shell roofs. *The Indian Concrete Journal*. Vol. 33, No. 12. December 1959. pp. 419-412.
- BOUCHAYER, M. R. Determination of stresses on anchor blocks. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. PO6. December 1959. pp. 121-162.
- BRADLEY, W. A. Laterally loaded thin flat plates. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. EM 4. October 1959. pp. 77-107.
- BRZEZINSKI, K. The analysis of symmetrical single-bay multiple-story frames. *Concrete and Constructional Engineering*. Vol. 55, No. 4. April 1960. pp. 147-153.
- CASACCI, S. Etude de la flexion des coques de révolution chargées axisymétriquement. (Study of the bending of shells of revolution loaded symmetrically about the axis.) *Travaux*. Vol. 43, No. 302. December 1959. pp. 711-714.
- CHAPMAN, R. F. Box frame construction. *Constructional Review*. Vol. 32, No. 11. November 1959. pp. 28-30.
- CHINENKOV, Y. V. Reinforcing of concrete units working on bending and torsion. *Beton i Zhelezobeton*. No. 1. 1960. pp. 35-37. (In Russian.)
- CHISTYAKOV, E. A. Load-carrying capacity of flexible eccentrically compressed reinforced concrete columns. *Beton i Zhelezobeton*. No. 2. 1960. pp. 75-82. (In Russian.)
- COMMISSIE VOOR UITVOERING VAN RESEARCH INGESTELD DOOR DE BETONVERENIGING. *Vibration problems in prestressed concrete*. The Hague, Betonvereniging, 1960. pp. 69. CUR report No. 17.
- DAVIES, J. D. Discontinuity in circumferentially prestressed cylinders. *Civil Engineering and Public Works Review*. Vol. 55, No. 643. February 1960. pp. 225-227.
- DEIBEL, P. H. De draagkracht van hoge betonwanden. (The load-carrying capacity of high concrete walls.) *De Ingenieur*. Vol. 72, No. 8. 19th February 1960. pp. Bt19-Bt27.
- DI PASQUALE, S. Generalità per la determinazione delle direzioni principali nei gusci a doppia curvatura. Applicazione ad un paraboloide ellittico a proiezione rettangolare e verifica sperimentale dei risultati. (Generalities for the determination of the principal directions in shells with double curvature. Application to an elliptic paraboloid with rectangular projection and experimental verification of the results.) *Il Cemento*. Vol. 56, No. 11. November 1959. pp. 3-9.
- DIAZ DE COSSIO, R. and SIESS, C. P. Behavior and strength in shear of beams and frames without web reinforcement. *Journal of the American Concrete Institute*. Vol. 31, No. 8. February 1960. pp. 695-735.
- DULÁCSKA, E. and KOLLÁR, L. Angenäherte Berechnung des Momentenzuwachses und der Stabilität von gedrückten Rahmenstielen. (Approximate calculation of the increase in the moments and of the stability of the columns of portal frames in compression.) *Die Bautechnik*. Vol. 37, No. 3. March 1960. pp. 98-109.
- DUNHAM, C. W. and GESUND, H. Yield moments of reinforced concrete beams and columns. *Journal of the American Concrete Institute*. Vol. 31, No. 9. March 1960. pp. 837-851.
- DUVALL, B. U. Special pavement requirements for jet aircraft operations. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. AT 2. May 1959. pp. 17-28.
- EBERDING, H. Verfahren zur Beurteilung von Querschnitten vorgespannter Tragwerke. (Method for assessing the cross-sections of prestressed concrete structures.) *Die Bautechnik*. Vol. 37, No. 2. February 1960. pp. 49-58.
- FANG-YIN, T. Direct computation of non-prismatic column and beam constants in no shear distribution method. *Science Record*. Vol. 4, No. 1. January 1960. pp. 70-77.
- FAVRE, H., SCHUMANN, W. and MARTINOLA, M. Etude expérimentale et théorique de la répartition des tensions dans les plaques circulaires fléchies d'épaisseur variable. (Experimental and theoretical investigation of the stress distribution in circular plates of variable thickness, subjected to bending.) *Bulletin Technique de la Suisse Romande*. Vol. 86, No. 4. 13th February 1960. pp. 53-62. No. 6. 12th March 1960. pp. 97-105.
- FUNK, H. Die Berechnung statisch unbestimmter Rahmen auf Schwingungen nach einem Näherungsverfahren. (The analysis of statically indeterminate portal frames with regard to vibrations, according to an approximate method.) *Wissenschaftliche Zeitschrift der Hochschule für Architektur und Bauwesen Cottbus*. No. 2. 1958/9. pp. 105-112.
- FURR, H. L. Numerical method for approximate analysis of building slabs. *Journal of the American Concrete Institute*. Vol. 31, No. 6. December 1959. pp. 511-541.
- GALAMBOS, T. V. and KETTER, R. L. Columns under combined bending and thrust. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. EM 2. April 1959. pp. 1-30.
- GALLETLY, G. D. Edge influence coefficients for toroidal shells of positive gaussian curvature. *Transactions of the A.S.M.E. Journal of Engineering for Industry*. 1959. pp. 9. Paper No. 59-Pet-2. (Reprint.)
- GALLETLY, G. D. Edge influence coefficients for toroidal shells of negative gaussian curvature. *Transactions of the A.S.M.E. Journal of Engineering for Industry*. 1959. pp. 7. Paper No. 59. Pet-3. (Reprint.)
- GALLETLY, G. D. and RADOK, J. R. M. On the accuracy of some shell solutions. *Transactions of the A.S.M.E. Journal of Engineering for Industry*. 1959. pp. 7. Paper No. 59. APM-30. (Reprint.)
- GALLI, G. Calcolo delle deformazioni elastiche nelle coperture a volta. (Calculation of elastic deformations in vaulted roofs.) *Il Cemento*. Vol. 57, No. 2. February 1960. pp. 3-11, 37.
- GEER, E. Stresses in deep beams. *Journal of the American Concrete Institute*. Vol. 31, No. 1. January 1960. pp. 651-661.

- GIBSON, J. E. Computer programme for multi-cylindrical shell roofs. *The Indian Concrete Journal*. Vol. 33, No. 12. December 1959. pp. 407-410.
- GODFREY, G. B. (translated by). Composite beams for structures Directives for calculation and design and supplements and explanations, being German standard specification DIN 4239, Parts 1 & 2. *Civil Engineering*. January 1960. (Reprint.)
- GORENC, B. E. Design aid for rectangular reinforced concrete members. *Australian Civil Engineering and Construction*. Vol. 1. No. 3. 3rd December 1959. pp. 26-29. No. 4. 4th January 1960. pp. 44-48.
- GOUDA, M. A. Distribution of torsion and bending moments in connected beams and slabs. *Journal of the American Concrete Institute*. Vol. 31, No. 8. February 1960. pp. 757-774.
- GRABOWSKY, H. De berekening van cilindrische schalen door middel van een benaderende vouwschaalberekening. (Calculation of cylindrical shells by means of an approximation calculation of prismatic shells.) *Cement Beton*. Vol. 12, No. 7. February 1960. pp. 617-623.
- GRANHOLM, H. Allmän teori för beräkning av armerad betong. (General theory for the design of reinforced concretes.) Helsinki, August 1959. pp. S21 1-4. Paper presented at the Nordic Concrete Research Congress, 1959.
- GÜNTHER, H. Schnittkräfte und Verformungen in Kreiszyinderschalen und deren Anwendung auf Silo- und Behälterbauten. (Stress resultants and deformations in circular cylindrical shells and their application to the construction of silos and tanks.) *Die Bautechnik*. Vol. 37, No. 3. March 1960. pp. 95-98.
- HAAS, A. M. Theory and research in concrete shell design. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST 4. April 1959. pp. 1-21.
- HEINISCH, K. Einflussflächen für eine schiefwinklge, gekrümmte Dreifeldplatte mit veränderliche Plattendicke. (Influence areas for a skew, curved three-span slab of variable thickness.) *Beton- und Stahlbetonbau*. Vol. 55, No. 3. March 1960. pp. 58-64.
- HOGNESTAD, E. *Effects of research on modern American structural concrete design*. Chicago, Portland Cement Association, 1959. pp. 9. Development Department Bulletin D29. Authorized reprint from *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST 5. May 1959. Paper 2034.
- HOLMBERG, A. Studium av balkupplag och pelarhuvuden vid montagebyggnad. (Study of beam bearings and column heads in building construction from precast elements.) Helsinki, August 1959. pp. S19 1-2. Paper presented at the Nordic Concrete Research Congress 1959.
- HOLMBERG, A. Studium av balkupplag och pelarhuvuden vid montagebyggnad. (Study of beam supports and column capitals in prefabricated structures.) *Nordisk Betong*. Vol. 3, No. 4. 1959. pp. 349-354.
- HOLMES, M. Stiffened plating under transverse load. *Quarterly Journal of Mechanics and Applied Mathematics*. Vol. 12, Part 4. November 1959. pp. 441-453.
- HRUBAN, I. and HRUBAN, K. Northlight shell roofs—new constructional methods. *The Indian Concrete Journal*. Vol. 33, No. 12. December 1959. pp. 423-426.
- HUEY, S. E. Fixed point method of moment design. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST9. November 1959. pp. 31-52.
- KAMERLING, J. W. De invloed van de doorsnede-draaiing van op wringing belaste balken op de momenten-verdeling in daarop aansluitende platen. (The influence of transverse twist of torsionally stressed beams on the distribution of moments in slabs connected with them.) *De Ingenieur*. Vol. 72, No. 13. 25th March 1960. pp. Bt.38-Bt.39.
- KAMMENHUBER, J. and WEGMANN, H. Belastungsglieder für Biegestäbe mit Einschluss von Balken mit veränderlichem Trägheitsmoment und vorgespannten Stäben. (Loading terms for flexural members, including beams with varying moment of inertia and prestressed members.) *Beton- und Stahlbetonbau*. Vol. 55, No. 1. January 1960. pp. 7-20.
- KACNER, A., LEWICKI, B., ORLOS, Z. and DYLAG, Z. Schemat obliczeniowy pracy przępon z otworami pod działaniem sił poziomych parcia wiatru. (Calculation method for determining forces acting on diaphragms with openings under the influence of wind pressure.) *Inżynieria i Budownictwo*. Vol. 17, No. 1. 1960. pp. 1-6.
- KEIJZER, D. Cross-berekeningen met een elektronische reken-machine. (Calculations according to the Hardy-Cross method effected by electronic computer.) *Cement Beton*. Vol. 12, No. 7. February 1960. pp. 607-608.
- KESHAVA RAO, M. N. Analysis of the general hyperbolic paraboloid shells. *The Indian Concrete Journal*. Vol. 33, No. 12. December 1959. pp. 450-454.
- KINNUNEN, S. Riktlinjer vid dimensionering av pelardäck. (Lines of direction in the design of column-slab (mushroom) floors.) Helsinki, August 1959. p. S58. Paper presented at the Nordic Concrete Research Congress 1959.
- KLÖPPFEL, K. and SCHARDT, R. Systematische Ableitung der Differentialgleichungen für ebene anisotrope Flächentragwerke. (Systematic derivation of the differential equations for plane anisotropic slabs.) *Der Stahlbau*. Vol. 29, No. 2. No. 2. February 1960. pp. 33-43.
- KOROLEV, A. N. The method of determination of deflexions of reinforced concrete slabs supported at the circumference. *Beton i Zhelezobeton*. No. 3. 1960. pp. 138-141. (In Russian.)
- KRENCHER, H. Influence of the concrete tensile stresses on the stress distribution and deformation of reinforced concrete. *Ingeniören*. Vol. 3, No. 4. December 1959. pp. 119-123.
- KRIZ, L. B. Ultimate strength criteria for reinforced concrete. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. EM 3. pp. 95-110.
- KRZEMIŃSKI, J. Obliczanie sprężonych powłok walcowych metodą tarczownicy zastępczej. (Computation of prestressed cylindrical shells by the method of prismatic shells.) *Archiwum Inżynierii Lądowej*. Vol. 5, No. 3. 1959. pp. 285-300.
- LEMPICKI, J. Teoria zginania belek żelbetowych statycznie wyznaczalnych—belki prostokątne podwójnie zbrojone. (Theory of bending of statically determinate reinforced concrete structures—rectangular beams with double reinforcement.) *Archiwum Inżynierii Lądowej*. Vol. 5, No. 4. 1959. pp. 415-448.
- LEONARDS, G. A. and HARR, M. E. Analysis of concrete slabs on ground. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. SM 3. June 1959. pp. 35-58.
- LEONHARDT, F., BOLL, K. and SPEIDEL, E. Zur Frage der sicheren Bemessung von Zement-Silos. (The problem of safe design of cement silos.) *Beton- und Stahlbetonbau*. Vol. 55, No. 3. March 1960. pp. 49-58.
- LIBBY, J. R. Critique of current methods of varying prestressing moment in pretensioned prismatic beams. *Journal of the American Concrete Institute*. Vol. 31, No. 5. November 1959. pp. 391-408.
- MACKAY, A. R. Lightweight fire protection and the structural engineer. *The Structural Engineer*. Vol. 38, No. 1. January 1960. pp. 320-325.
- MALLICK, S. K. and RANGASAMI, K. S. Ultimate strength of rectangular concrete beams with tension reinforcement. *The Indian Concrete Journal*. Vol. 34, No. 2. February 1960. pp. 70-72.
- MATTOCK, A. H. *Redistribution of design bending moments in reinforced concrete continuous beams*. Chicago, Portland Cement Association, 1960. pp. 12. Research Department Bulletin D.30. Authorized reprint from the *Proceedings of the Institution of Civil Engineers*. Vol. 13. 1959. pp. 35-46. Paper No. 6314.
- MIESENHELDER, P. D. Effect of design and details on concrete deterioration. *Journal of the American Concrete Institute*. Vol. 31, No. 7. January 1960. pp. 581-590.
- MILLS, G. M. Slabs spanning in two directions designed by the yield-line method. *Concrete and Constructional Engineering*. Vol. 55, No. 3. March 1960. pp. 111-118.

- MULLER, L. S. Design of L-shaped columns with small eccentricities. *Journal of the American Concrete Institute*. Vol. 31, No. 6. December 1959. pp. 487-496.
- MØNSTED, J. M. Bärformåga av förtillverkade bjälklagsplattor med cylindriska ursparingar, upplagda enbart på fyra punkter. (Strength of precast floor slabs with cylindrical openings supported at only four points.) Helsinki, August 1959. pp. D23 1-2. Paper presented at the Nordic Concrete Research Congress. 1959.
- NYLANDER, H. and KINEUNEN, S. Dimensionering av pelarunderstödda plattor. (The design of slabs supported by columns.) Helsinki, August 1959. pp. S27 1-5. Paper presented at the Nordic Concrete Research Congress 1959.
- OPLADEN, K. Über den Einspanngrad einer Stütze im Fundament. (The degree of restraint of a column fixed in a foundation.) *Beton- und Stahlbetonbau*. Vol. 55, No. 2. February 1960. pp. 35-44.
- ORMEROD, A. Deflection of beams due to shear. *Civil Engineering and Public Works Review*. Vol. 55, No. 644. March 1960. pp. 380-383.
- PALMER, P. J. A method of analysis for axially symmetrical shells with constant meridional curvature. *Quarterly Journal of Mechanics and Applied Mathematics*. Vol. 12, Part 4. November 1959. pp. 431-442.
- PARRY-DAVIS, P. Stressed raising of dams. *Prestress*. Vol. 9, No. 1. January 1960. pp. 6.
- PEI, M. L. Matrix solution of beams with variable moments of inertia. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST 8. October 1959. pp. 1-14.
- PONOMARIOV, K. K. Obliczanie belek ciągłych metoda macierzową. (Calculation of continuous beams by matrix method.) *Inżynieria i Budownictwo*. Vol. 17. No. 1. 1960. pp. 7-12. No. 2. pp. 57-58.
- PORTLAND CEMENT ASSOCIATION. *Design of highway bridges in prestressed concrete*. Chicago, 1959. pp. 31. ST-84.
- PORTLAND CEMENT ASSOCIATION. *Ultimate flexural strength of bonded prestressed concrete*. Chicago, 1959. pp. 5. ST-83.
- RISH, R. F. and STEEL, T. F. Design and selection of hyperbolic cooling towers. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. PO 5. October 1959. pp. 89-117.
- ROBERTSON, R. G. Some thoughts on the ultimate strength of prestressed concrete. *Prestress*. Vol. 9, No. 1. January 1960. pp. 11.
- ROBERTSON, R. G. The two-span haunched continuous beam in prestressed concrete. *Proceedings of the Institution of Civil Engineers*. Vol. 15, March 1960. pp. 255-272.
- ROWE, R. E. and ZIELIŃSKI, J. Distribution of stress in anchor blocks. *Engineering*. Vol. 189, No. 4899. 11th March 1960. pp. 347-348.
- RUBINCHIK, M. I., TSALALIKHIN, M. S. and ROGEZINSKII, A. M. Precast combined with monolithic concrete shell roof with double curvature and enlarged network of columns. *Beton i Zhelozobeton*. No. 11. 1959. pp. 486-488. (In Russian.)
- SAMADDAR, S. K. and AKSHIT, K. S. Ultimate strength design of reinforced concrete members. *The Indian Concrete Journal*. Vol. 33, No. 11. November 1959. pp. 379-383.
- SARKAR, S. Torsion in reinforced concrete sections. *The Indian Concrete Journal*. Vol. 33, No. 11. November 1959. pp. 391-393.
- SCHREIBER, W. Die Bemessung des Kreisringquerschnittes aus Stahlbeton nach einem Traglastverfahren. (The design of reinforced concrete annular sections according to the ultimate-load method.) *Wissenschaftliche Zeitschrift der Hochschule für Architektur und Bauwesen Cottbus*. No. 2. 1958/9. pp. 163-173.
- SCORDELIS, A. C. Internal forces in uniformly loaded helicoidal girders. *Journal of the American Concrete Institute*. Vol. 31, No. 10. April 1960. pp. 1013-1026.
- SHERMAN, J. Laterally deflected columns. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST 8. October 1959. pp. 45-101.
- SIEV, A. Design of unsymmetrical reinforced concrete sections. *Journal of the American Concrete Institute*. Vol. 31, No. 10. April 1960. pp. 1059-1070.
- STEEDMAN, J. C. Nomograms for the design of beams and slabs by the load-factor method. *Concrete and Construction Engineering*. Vol. 55, No. 2. February 1960. pp. 91-97. No. 3. March 1960. pp. 133-135. No. 4. April 1960. pp. 169-174.
- TANAKA, H. Das Superpositionsgesetz bei Verbundkonstruktionen vom Standpunkt der Plastizitätstheorie. (The law of superposition in composite constructions on basis of plasticity theory.) *Bauplanung Bautechnik*. Vol. 13, No. 12. December 1959. pp. 566-567.
- TOOTH, A. S., KENEDY, R. M. and HOSSACK, J. D. W. The use of semi-graphical methods in the stress and deformation analysis of shell forms. *The Structural Engineer*. Vol. 38, No. 4. April 1960. pp. 129-137.
- TOPRAC, A. Circular reinforced concrete columns subjected to direct stress and bending. *Public Roads*. Vol. 30, No. 11. December 1959. pp. 241-245.
- TUNELL, T. Cirkelringsplattor med jämnt fördelad last, upplagda vid yttre och inre omkrets. (Circular plates with concentric circular holes uniformly loaded and supported at outer and inner edges.) *Nordisk Betong*. Vol. 4, No. 1. 1960. pp. 51-59.
- WHITNEY, C. S., ANDERSON, B. G. and BIRNBAUM, H. Reinforced concrete folded plate construction. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. ST 8. October 1959. pp. 15-43.
- WIERZBICKI, W. La méthode semi-probabiliste appliquée à l'investigation de la sécurité des constructions en béton armé. (The semi-probable method applied to investigations of the safety of reinforced concrete structures.) *Bulletin de l'Académie Polonaise des Sciences*. Vol. 7, No. 10. 1959. pp. 609-616.
- YOUNG, D. H. and BRAHTZ, J. F. Torque-loaded continuous beams of profile section. *Proceedings of the American Society of Civil Engineers*. Vol. 85, No. EM 2. April 1959. pp. 37-46.