

## REFERENCES

- 1- ACI Committee 318, 2002, "Building Code Requirements for Structural Concrete (ACI 318-02) and Commentary (318R-02)," American Concrete Institute, Farmington Hills, Mich., 443 pp.
- 2- Dilger, W. H., and Ghali, A., 1981, "Shear Reinforcement for Concrete Slabs," Journal of Structural Division, ASCE, V. 107, No. ST12, pp. 2403-2420.
- 3- Ebead, U., and Marzouk, H., 2002, "Strengthening of Two-Way Slabs Subjected to Moment and Cycling Loading," ACI Structural Journal, V. 99, No. 4, July-Aug., pp. 435-444.
- 4- Elgabry, A. A., and Ghali, A., 1990, "Design of Stud-Shear Reinforcement for Slabs," ACI Structural Journal, V. 87, No. 3, May-June, pp. 350-361.
- 5- El-Salakawy, E. F.; Polak, M. A.; and Soudki, K. A., 2003, "New Shear Strengthening Technique for Concrete Slab-Column Connections," ACI Structural Journal, V. 100, No. 3, May-June, pp. 297-304.
- 6- Hawkins, N. M., 1974, "Shear Strength of Slabs with Shear Reinforcement," Shear in Reinforced Concrete, SP-42, V. 2, American Concrete Institute, Farmington Hills, Mich., pp. 785-816.
- 7- Mokhtar, A. S.; Ghali, A.; and Dilger, W., 1985, "Stud Shear Reinforcement for Flat Concrete Plates," ACI JOURNAL, Proceedings V. 82, No. 5, Sept.-Oct., pp. 676-683.
- 8- Ramos, A. M.; Lucio, V. J.; and Regan, P. E., 2000, "Repair and Strengthening Methods of Flat Slabs for Punching," Proceedings of the International Workshop on Punching Shear Capacity on RC Slabs, Stockholm, pp. 125-133.

- 9- Rankin, G. I. B., and Long, A. E., 1987, "Predicting the Punching Strength of Conventional Slab-Column Specimens," Proceedings, Institution of Civil Engineers, Part I, V. 82, pp. 327-346.
- 10- AS 3600, 1994, "Australian Standard for Concrete Structures," Standard Association of Australia, North Sydney, Australia, 155 pp.
- 11- Bazant, Z. P., and Cao, Z., 1987, "Size Effect Punching Shear Failure of Slabs," ACI Structural Journal, V. 84, No. 1, Jan.-Feb., pp. 44-53.
- 12- Canadian Standards Association, 1994, "Design of Concrete Structures for Buildings," CAN3, A23.3-M94, Rexdale, Ontario, Canada, 199 pp.
- 13- CEB-FIP MC 90, 1993, "Design of Concrete Structures," CEB-FIP Code 1990, Thomas Telford, 437 pp.
- 14- Chana, P. S., and Desai, S. B., 1992a, "Design of Shear Reinforcement against Punching," The Structural Engineer, V. 70, No. 5, May, pp. 159-164.
- 15- "Eurocode 2: Design of Concrete Structures—Part 1: General Rules and Rules for Buildings," European Prestandard ENV 1992-1-1:1991, 253 pp.
- 16- Geng, J. Z., 2002, "Strength of Slab-Column Connections with Openings Transferring Biaxial Unbalanced Moments," PhD thesis, Nanyang Technological University, Singapore, 279 pp.
- 17- Hallgren, M., 1997, "Punching Shear of Reinforced Concrete Slabs-Finite Element Analysis and Modified Mechanical Model," Advanced Design of Concrete Structures, CIMNE, Barcelona, Spain.
- 18- Hognestad, E.; Elstner, R. C.; and Hanson, J. A., 1964, "Shear Strength of Reinforced Structural Lightweight Aggregate Concrete Slabs," ACI JOURNAL, Proceedings V. 61,

No. 6, June, pp. 643-655.

19- Joint ACI-ASCE Committee 426, 1974, "The Shear Strength of Reinforced Concrete Members," Proceedings, ASCE, V. 100, No. ST8, Aug., pp. 1543-1591.

20- Kuang, K. L., and Teng, S., 2001, "Punching Shear Strength of Slabs with Openings and Supported on Rectangularity Columns," Final Report, A BCA-NTU Joint Research on Flat-Plate Structures, Phase-1A, 298 pp.

21- Lee, S. C., and Teng, S., 1999, "Punching Shear Strength of Slabs with Rectangular Columns," Interim Research Report, School of Civil and Structural Engineering, Nanyang Technological University, Singapore, 93 pp.

22- Marzouk, H., and Hussein, A., 1991, "Punching Shear Analysis of Reinforced High-Strength Concrete Slabs," Canadian Journal of Civil Engineering, V. 18, No. 4, pp. 954-963.

23- Regan, P. E., 1986, "Symmetrical Punching of Reinforced Concrete Slab," Magazine of Concrete Research, V. 38, No. 136, Sept., pp. 115-128.

24- Regan, P. E.; Al-Hussaini, A.; Ramdane, K.-E.; and Xue, H.-Y., 1993, "Behavior of High Strength Concrete (HSC) and its Effect on the Shear Strength of Longitudinally Reinforced Concrete Members," Utilization of High Strength Concrete, Proceedings of the Third International Symposium, V. 1, Lillehammer, Norway, Norwegian Concrete Association, Oslo, June 20-24, pp. 269-276.

25- British Standards Institution, 1997, "Structural Use of Concrete, BS8110: Part 1- Code of Practice for Design and Construction," London, 172 pp.

26- Hallgren, M., and Kinnunen, S., 1996, "Increase of Punching Shear Capacity by Using High-Strength Concrete," 4th International Symposium on Utilization of High-

Strength/High-Performance Concrete, Paris, pp. 1015-1026.

27- Emam, M.; Marzouk, H.; and Hilal, S. M., 1997, "Seismic Response of Slab- Column Connection Constructed with High-Strength Concrete," ACI Structural Journal, V. 94, No. 2, Mar.-Apr. 1997, pp. 197-205.

28- Marzouk, H.; Osman, M.; and Helmy, S., 2000, "Behavior of High-Strength Lightweight Concrete Slabs under Central Load and Unbalanced Moment," ACI Structural Journal, V. 97, No. 3, May-June 2000, pp. 492-498.

29- ACI-ASCE Committee 352, "Recommendation for Design of Slab-Column Connections in Monolithic Reinforced Concrete Structures (ACI 352.1R- 88)," ACI Structural Journal, V. 85, No. 6, Nov.-Dec. 1988, pp. 675-696.

30- Osman, M.; Marzouk, H.; and Helmy, S., 2000, "Behavior of High-Strength Lightweight Slabs under Punching Loads," ACI Structural Journal, V. 97, No. 3, May-June 2000, pp. 492-498.

31- Marzouk, H.; Emam, M.; and Hilal, M. S., 1996, "Effect of High-Strength Concrete Columns on the Behavior of Slab Column Connections," ACI Structural Journal, V. 93, No. 5, Sept.-Oct. 1996, pp. 545-554.

32- Marzouk, H.; Eman, M.; and Hilal, M. S., 1998, "Effect of High-Strength Concrete Slabs on the Behavior of Slab-Column Connections," ACI Structural Journal, V. 95, No. 3, May-June 1998, pp. 227-237.

33- Marzouk, H., and Hussein, A., 1991, "Experimental Investigation on the Behavior of High-Strength Concrete Slabs," ACI Structural Journal, V. 88, No. 6, Nov.-Dec. 1991, pp. 701-713.

- 34- Megally, S., and Ghali, A., 2000, "Seismic Behavior of Slab-Column Connections," Canadian Journal of Civil Engineering, V. 27, No. 1, Feb. 2000, pp. 84-100.
- 35- Ghali, A., and Hammill, N., 1992, "Effectiveness of Shear Reinforcement in Slabs," Concrete International, V. 14, No. 1, Jan. 1992, pp. 60-65.
- 36- Megally, S., and Ghali, A., 2000, "Punching of Concrete Slabs Due to Column Moment Transfer," Journal of Structural Engineering, ASCE, V. 126, No. 2, Feb. 2000, pp. 180-189.
- 37- CEP-FIP, 1990. Model Code for Concrete Structures, Comité' Euro- International de Beton/Federation Internationale de la Precontrainte, Lausanne, Switzerland.
- 38- Canadian Standards Association, CSA A23.3-94, Design of Concrete Structures, CSA, Rexdale, Ontario, 1994, 220 pp.
- 39- Elgabry, A. A., and Ghali, A., 1987, "Tests on Concrete Slab-Column Connections with Stud Shear Reinforcement Subjected to Shear-Moment Transfer," ACI Structural Journal, V. 84, No. 5, Sept.-Oct. 1987, pp. 433-442.
- 40- Polak, M. A., and Vecchio, F. J., 1993, "Nonlinear Analysis of Reinforced Concrete Shells," ASCE journal of Structural Engineering, V.119, No. 12, 1993, pp. 3439-3461
- 41- ASTM (American Society for Testing and Materials), "Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete" (ASTM C 618-87) Annual Book of Standards, V.04.02, Philadelphia, 1991.
- 42- Menétrey, P., "Analytical Computation of the Punching Strength of Reinforced Concrete ," ACI Structural Journal, V. 93, No. 5, Sept.-Oct. 1996, pp. 1-9.

- 43- ANSYS, "Engineering Analysis System User's Manual, Vol. 1 & 2, and Theoretical Manual," Revision 5.4, Swanson Analysis System Inc., Houston, Pennsylvania, 1999.
- 44- Swamy, R. N., and Ali, S. A. R., 1982, "Shear Behavior of Reinforced Concrete Slab-Column Connections Made with Steel Fiber Concrete," ACI JOURNAL, Proceedings V. 79, No. 5, Sept.-Oct. 1982, pp. 392-406.
- 45- AS3600: Concrete Structures Standard. Standards Association of Australia, 1994.
- 46- Hallgren, M. and Kinnunen, S. 1996, "Increase of Punching Shear Capacity by using High Strength Concrete," 4th International Symposium on Utilization of High strength/High-performance Concrete. Paris, 1996, pp. 1037-1046.
- 47- Tomaszewicz, A. High-strength Concrete SP2 - Plates and Shells. Report 2.3, "Punching Shear Capacity of Reinforced Concrete Slabs". Report No. STF70A93082, SINTEF, Trondheim, 1993.
- 48- Ramdane, K.E. 1996, "Punching Shear of High Performance Concrete Slabs". 4th International Symposium on Utilization of High-strength/High-performance Concrete. Paris, 1996, pp. 1015-1026.
- 49- Hallgren, M. and Kinnunen, S. "Punching Shear Tests on Column Footings," Swedish National Road Administration, 1998.
- 50- Krueger, G. 1996. "Punching Tests on RC Flat Slabs with Eccentric loading," Swedish Federal Institute of Technology, 1998.
- 51- Markus A. Staller. 2000. "Analytical Studies and Numerical Analysis of Punching Shear Failure in Reinforced Concrete Slabs," International Workshop on Punching Shear Capacity of Reinforced Concrete Slabs (Stockholm 2000).

- 52- D. Tuan Ngo. 2001, "Punching shear resistance of high-strength concrete slabs ,," Electronic Journal of Structural Engineering, 1 (2001)
- 53- El-Salakawy, E. F.; Polak, M. A.; and Soliman, M. H., 2000, "Reinforced Concrete Slab-Column Edge Connections with Shear Studs," Canadian Journal of Civil Engineering, V. 27, pp. 338-348.
- 54- Ghali, A.; Sargious, M. A.; and Huizer, A., 1974, "Vertical Prestressing of Flat Plates Around Columns," Shear in Reinforced Concrete, SP-42, V. 2, pp. 905-920.
- 55- British Standards Institution, 1997, "Structural Use of Concrete: Part 1, Code of Practice for Design and Construction, (BS 8110: Part 1: 1997)," London, 120 pp.
- 56- CEB-fib, 2001, "Punching of Structural Concrete Slabs," Bulletin 12, CEBfib Task Group, Utilization of Concrete Tension in Design, 307 pp.