ACI Committee 360
Design of Slabs on Ground

MEETING AGENDA

Monday, Arial 23, 2007
Atlanta, GA

2:00PM - 6:30PM – MADISON

1. Call to order — Wayne Walker – Chair

   A. Introduction of members
   B. Do not forget to sign one of the attendance sheets
   C. Update member contact information on ACI's web site
      i) Go to http://www.concrete.org "login" then "Members" then "Address Change"

2. Comments concerning previous meeting minutes

3. Report from related Committees

   A. Committee 302 — Pat Harrison
   B. Committee 330 — Tim Cost

4. Update on ACI 301 developing a specification for slabs on ground — McKinney

5. Discussions with Chapter Chairs concerning progress with incorporating new information.

   A. Chapter 1 - Introduction — Allen Face
      i) Future Needs
   B. Chapter 2 - Slab types — Tipping/Face
      i) Provide more emphasis on which slabs are designed not to crack (for example, jointed unreinforced, shrinkage-compensating, post-tensioned, HVSF, etc.) and those designed to crack (for example, continuously reinforced and steel fiber slabs).
      ii) Provide design guidance for slabs in difficult environmental conditions, such as low humidity.
      iii) Provide guidance on design expectations.
      iv) Lift cycle cost information.
      v) Provide guidance on Owner's responsibilities in the "pros" and "cons"
   C. Chapter 3 - Soil support systems for slabs-on-ground — Bill Brickey
      i) Revise Table 3.3 – Soil stabilization with chemical admixtures
   D. Chapter 4 - Loads — Holland/Walker
   E. Chapter 5 - Joints — Mike McPhee
      i) Provide guidance on acceptable joint stability. — Mcphee/Tarr
      ii) Provide guidance on acceptable crack stability and reduce the current document focus on crack width as an acceptance criterion. — Mcphee/Tarr
      iii) Discussion of the problems/causes/solutions of "dominant joints" — McPhee/Smith
      iv) Provide guidance on dowel design — Holland/Walker
   F. Chapter 6 - Design of unreinforced concrete slabs — Holland/Walker

G. Chapter 7 - Design of slabs reinforced for crack-width control — Holland/Walker
   i) Provide guidance for designing reinforcement regarding control crack widths for slabs:
      (1) Designed using the joint spacings shown in Figure 5.3.
      (2) Designed as continuously reinforced to eliminate joints
H. Chapter 8 - Design of shrinkage-compensating concrete slabs — Terry Fricks
   i) Provide guidance indicating that 0.15% to 0.25% reinforcement would be optimum to maximize the compression stress in the slab.
   ii) Provide information and an example to account for the effect of the base friction to properly determine the optimum reinforcement.
I. Chapter 9 - Design of post-tensioned slabs-on-ground — Bob Anderson
   i) Remove the section and example problem for expansive soils and refer to the PTI publication with the complete treatment of this subject.
      (1) Provided a summary paragraph of the issues concerning the design of slabs on expansive soils and then direct the designer to the PTI publication.
J. Chapter 10 – Fiber-reinforced concrete slabs-on-ground — Mike McPhee
   i) Provide serviceability design requirements for steel fiber slabs. Serviceability requirements to include steel fiber amounts to control crack widths, joint activation, shear transfer at joints.
   ii) Development of the design strategy for fiber slabs with low to medium amounts of fiber.
      (1) Slabs allowed to crack on the bottom and then the moment would redistribute but the slab would not be allowed to crack on the top for uniform and rack loads (low to medium amount of fibers may not be sufficient to control crack widths on the top of the slab).
      (2) For dynamic loads such as lift-trucks, the bottom cracks may reflect to the top. Therefore, this case is checked using the uncrack slab section properties and the appropriate factor of safety for fatigue loading.
   iii) Provide design guidance for HVSF slabs
K. Chapter 11 - Structural slabs-on-ground — Holland/Walker
   i) Provide guidance when the floor slab is used to laterally support the building foundations, such as for pre-engineered buildings
L. Chapter 12 - Design of Slabs for Refrigerated Buildings — Barry Foreman
M. Chapter 13 - Reducing the Effects of Slab Shrinkage and Curling — Holland/Walker
N. Chapter 14 – References — Holland/Walker
O. Appendix 7 – Construction Drawing Information and Typical Details — Walker/Holland
   i) Provide guidance for slab design information to be shown on the drawings.
      (1) Statement stating if the slab is used as part of the lateral force resistance system or a plan indicating which portions are used to resist lateral forces (such as for tilt-walls or masonry tie back strips around the perimeter of the building)
   ii) Provide details for the following:
      (1) Slab penetrations such as for piping and bollards
      (2) Reinforcement at reentrant corners
      (3) Reinforcement at discontinuous slab joints
      (4) Reinforcement at both overhead and personnel door locations.
      (5) Drains and clean-outs. Drains and clean-outs should be appropriate for lift-truck traffic.
      (6) Hairpins used to resist lateral forces such as at pre-engineered building foundations.
      (7) Tie back strip areas at tilt-wall or masonry wall construction.

P. Appendix 8 – Concrete Mix Design Guide Specification — Pat Harrison
   i) This appendix would have a specification format with commentary discussing the justifications for the recommendations.
   ii) Provide guidance on the "pros" and "cons" of concrete shrinkage testing in evaluating mix designs.
   iii) Calcium Chloride versus Non-Chloride Accelerators

6. Adjourn