American Concrete Institute 1983

Fall Convention

September 25-30, 1983
KANSAS CITY
Hyatt Regency Hotel

Convention Office Copy
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September 25-30, 1983
Kansas City, Missouri

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SUSTAINING MEMBERS OF THE AMERICAN CONCRETE INSTITUTE

Master Builders
Division of Martin Marietta Corporation
Cleveland, Ohio

Portland Cement Association
Skokie, Illinois

Southwestern Portland Cement Company
Los Angeles, California

W.R. Grace & Company
Construction Products Division
Cambridge, Massachusetts
The ACI staff is eager to answer any questions you may have pertaining to the convention.

The registration desk is open to serve you:

- **Sunday**: September 25, 1:00 pm - 5:00 pm
- **Monday**: September 26, 7:00 am - 5:00 pm
- **Tuesday**: September 27, 8:00 am - 5:00 pm
- **Wednesday**: September 28, 8:00 am - 5:00 pm
- **Thursday**: September 29, 8:00 am - 5:00 pm
- **Friday**: September 30, 8:00 am - 10:30 am

**Fees:**

- Member: $80
- Nonmember: 95
- One-day Member: 35
- One-day Nonmember: 40
- Student: Free

Registration fees cover attendance at all ACI technical and educational committee meetings, general session, forums, and the Concrete Mixer.

For those who plan to attend the following sessions, there is no fee for attendance, but we do request payment for handout materials:

- **Workshop: Mini-Micro Programs for Concrete Design**
  - Handout Material Fee: $18.00
- **Design and Construction of Shrinkage Compensating Concrete**
  - Handout Material Fee: 12.00

In addition to the above sessions, the Kansas and Missouri Chapters have planned the following:

- **Seminar: Quality Concrete Construction**
  - Seminar Fee: 25.00
- **Quality Concrete Construction Luncheon**
  - Luncheon Fee: 15.00

**Badges**

Wear your badge on the right side at all times. (In shaking hands the eyes normally fall at shoulder level on the right side of the individual being greeted.) The convention badges are color coded for identification:

- Member: White
- Nonmember: Peach
- Fellow: Yellow
- Student: Blue
- Spouse: Beige
Publication Display . . . in the registration area all week. See the latest ACI publications now available. Orders are taken at the ACI Registration Desk which is located on the third level.

Coffee Bar . . . Monday through Friday mornings, 8:00 am-10:00 am in the registration area on the third level. Coffee, tea, and Sanka will be available.

Breakfasts (by invitation only):
Monday, September 26, 7:00 am
TAC/EAC Committee Breakfast
Atlanta A

Tuesday, September 27, 7:00 am
Chairmen Training Breakfast
Chouteau B

Wednesday, September 28, 7:00 am
1984 Speakers/Advisors Breakfast
Chouteau A

Thursday, September 29, 7:00 am
Session Chairmen Breakfast
Chouteau A

Rap Session . . . A complimentary breakfast will be served on Wednesday, from 7:30 am to 8:00 am with Rap Session starting at 8:00 am. This is your opportunity to ask ACI President Norman L. Scott and ACI Executive Vice President George F. Leyh any questions you may have regarding the Institute.

“Concrete Mixer” . . . Wednesday, 6:30 pm-8:00 pm in the New York Ballroom. Please be sure to bring your ticket and wear your badge.

Ladies Programs . . . have been planned for the women but are not exclusive to them. Check the program in the back of this booklet. There is something of interest for everyone!

Kansas/Missouri Chapters Dinner Meeting . . . Come join us on Thursday evening, September 29, for cocktails, dinner and meeting. Please purchase tickets at the Spouse Hospitality Desk in Chicago Ballroom A, Hyatt Regency, Kansas City.
September 25, 1983

Greetings!

It is a pleasure as Governor of Kansas to extend a warm welcome as you gather for the Fall Convention of the American Concrete Institute. It is an honor for Kansas to co-host this convention, and I am sure that you will find the coming days both rewarding and enjoyable.

This convention provides a forum for persons interested in the cement and concrete industry to share ideas, discuss problems and meet others from all over the nation who are also involved in the cement and concrete industry.

On behalf of all Kansans—and personally—I offer best wishes for an enjoyable and productive convention.

Sincerely,

[Signature]

JOHN CARLIN
Governor
September 25, 1983

GREETINGS:

As Governor of the State, it is my pleasure to extend a warm Missouri welcome to the fall convention of the American Concrete Institute.

Since its organization in 1905, the American Concrete Institute has provided a forum for the discussion and resolution of problems. The professional and technical standard of the organization has remained its hallmark, and its level of activity is now more intense than ever. The theme of the 1983 Fall Convention, "Concrete and Computers," shows the willingness of ACI to keep up-to-date and Kansas City is certainly an appropriate site for such an event.

I hope that you will have time during the convention to visit some of the city’s attractions. Kansas City is famous for its lovely parks, its excellent shopping, dining and nightlife, its professional sports teams and fine museums. Art lovers may want to visit the Nelson Gallery, one of the nation’s finest art museums. History buffs may want to travel just east to Independence, where the Harry S Truman Library and Museum is to be found. For those whose interests lie in a lighter vein, theme parks abound.

Best wishes for a productive convention and an enjoyable stay in Kansas City.

Sincerely,

[Signature]

GOVERNOR
City of Kansas City, Missouri  
Heart of America  

September 25, 1983  

Greetings,  

On behalf of the people of Kansas City, it is my privilege to extend a sincere welcome to the American Concrete Institute holding its fall convention in Kansas City, Missouri, in September, 1983. I am especially pleased that the Missouri Chapter of the American Concrete Institute will be co-hosting this prestigious meeting.  

I know that many of your delegates are from outside of our metropolitan area and, indeed, may be visiting Kansas City for the first time. I hope that you will take time to visit some of our interesting and historic attractions while you are in town. I am sure you will also find the people of our city to be warm and friendly. We are very proud of our growing reputation as the location for many national and international conventions.  

Best wishes for an informative and successful meeting. I hope your visit to Kansas City will convince you to return again in years to come.  

Sincerely,  

[Signature]  
Richard L. Berkley
September 25, 1983

Greetings and welcome to the fall convention of the American Concrete Institute. On behalf of our citizens, I would particularly like to congratulate the Kansas Chapter, an organization rich in corporate commitment.

Kansas City, Kansas offers the visitor delightful opportunities for cultural and educational activities, sports and entertainment but above all, warm and friendly hospitality. I hope that your plans will enable you to take full advantage of the many points of interest in our city.

Best wishes for another successful convention.

Yours truly,

John E. Reardon
Mayor
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>SUNDAY, September 25, 1983</td>
<td>1:00 pm - 5:00 pm</td>
<td>Registration Hours</td>
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<td></td>
<td>6:30 pm - 8:00 pm</td>
<td>Wine &amp; Cheese Party—Sponsored by ACI Kansas/Missouri Chapters</td>
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<td>MONDAY, September 26, 1983</td>
<td>7:00 am - 5:00 pm</td>
<td>Registration Hours</td>
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<td>8:30 am - 9:30 pm</td>
<td>Administrative, Technical and Educational Committee Meetings</td>
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<td>10:30 am - 6:00 pm</td>
<td>All Day Film Session</td>
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<td>TUESDAY, September 27, 1983</td>
<td>8:00 am - 5:00 pm</td>
<td>Registration Hours</td>
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<td>8:30 am - 9:30 pm</td>
<td>Administrative, Technical and Educational Committee Meetings</td>
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<td>8:30 am - 9:30 pm</td>
<td>Quality Concrete Construction (Part I, II, III)</td>
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<td>12:00 pm - 2:00 pm</td>
<td>Quality Concrete Construction Luncheon $15.00 (all are invited)</td>
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<td></td>
<td>12:00 pm - 2:00 pm</td>
<td>Computer Display</td>
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<td>2:00 pm - 4:00 pm</td>
<td>Workshop: Mini-Micro Computer Programs for Concrete Design</td>
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<td>4:00 pm - 6:00 pm</td>
<td>Computer Display</td>
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<td>5:30 pm - 9:30 pm</td>
<td>Student Program</td>
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<td>WEDNESDAY, September 28, 1983</td>
<td>7:30 am - 8:45 am</td>
<td>Rap Session</td>
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<td>Registration Hours</td>
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<td>8:45 am - 12:00 pm</td>
<td>General Session</td>
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<td>12:00 pm - 1:00 pm</td>
<td>Standards Presentation:</td>
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<td>• 301 Specification and 349 Code</td>
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<td>Technical Sessions:</td>
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<td>• Sneak Preview of ACI 318-83</td>
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<td>• History of Concrete</td>
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<td>• Innovative Materials and Techniques in</td>
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<td>• Cement Grouting (Part I)</td>
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<td>• Open Paper Session (Part I)</td>
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<td>2:00 pm - 9:30 pm</td>
<td>Technical Committee Meetings</td>
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<td>6:30 pm - 8:00 pm</td>
<td>Concrete Mixer</td>
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<td>THURSDAY, September 29, 1983</td>
<td>8:00 am - 5:00 pm</td>
<td>Registration Hours</td>
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<td>8:30 am - 9:30 pm</td>
<td>Technical Committee Meetings</td>
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<td>9:00 am - 12:00 pm</td>
<td>Technical Sessions:</td>
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<td>• Probability Based Load Combinations for Nuclear Structures (8:30 am-12:30 pm)</td>
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<td>• Research in Progress</td>
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<td>• Polymers in Concrete (Part I)</td>
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<td>• Design and Construction of Shrinkage Compensating Concrete</td>
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FRIDAY, September 30, 1983

8:00 am-10:30 am  Registration Hours
8:30 am-12:30 pm  Technical Committee Meetings
9:00 am-12:00 pm  Technical Sessions:
   • Concrete Railroad Ties
   • Concrete Sanitary Engineering Structures—Problems & Solutions
   • Consolidation of Concrete
   • Open Paper Session (Part II)
ACI KANSAS
CHAPTER OFFICERS

President
Ronald L. Brown
Dudley Williams and Associates

Vice-President
Andrew Mackie
Buildex, Inc.

Secretary-Treasurer
Brenda Sietsema

Past President
John T. Van Deurzen
Van Deurzen and Associates

Directors
Jimmie L. Thompson
Ash Grove Cement Co.

Jo Coke
Gifford-Hill and Co., Inc.

David Darwin
University of Kansas

Steven D. Briman
Bartlett and West, P. A.

Eldon F. Mockry
The Marley Cooling Tower Co.

Mark McAfee
Dudley Williams and Associates

Curt Straub
Pool and Patio Center, Inc.
President
Melton J. Stegall
U.S. Army Corps of Engineers

Vice-President
Paul A. Shervi
Marshall & Brown, Inc.

Secretary-Treasurer
Jon B. Ardaill
Black & Veatch

Past President
Gerry A. Perrigue
Vonder Haar Concrete Company

Directors
Jerome C. Brendel
PRC Conser Townsend & Assoc.

Jack H. Emanuel
University of Missouri - Rolla

William E. McDonald
Burns & McDonnell

Tom E. Linkogel
American Admixtures and Chemical Corp.

Richard Barb
Engineering Surveys and Services Co.

Larry Schiestl
Feeney Construction Co.
1983 FALL CONVENTION COMMITTEE

General Co-Chairmen

Kansas Chapter
John T. Van Deurzen
Van Deurzen and Associates

Missouri Chapter
Jon B. Ardahl
Black & Veatch

Secretary
Robert A. Stude
Boyd, Brown, Stude & Cambern

Treasurer
Jon B. Ardahl
Black & Veatch

Publicity
John A. Heillman
Lone Star Industries Inc.

Finance
Andrew F. Mackie
Buildex Inc.

Technical
Jo Coke
Gifford-Hill Chemical Co.

Social Programs
Leroy E. Halsted
Ash Grove Cement Co.

Concrete Mixer
Eldon F. Mockry
Marley Cooling Tower Co.

Student Promotion
Stuart E. Swartz
University of Kansas State

Computer Displays
John Van Deurzen
Van Deurzen and Associates

Committee Members

David Darwin
University of Kansas

William E. McDonald
Burns & McDonnell

Stephen Glass
LRM, Inc.

Larry Poisner
General Testing Laboratories

Don and Flossie Jack
Donald Jack & Associates

Jim and Barbara Thompson
Ash Grove Cement Co.

Frank Kelly
Master Builders

The officers, staff and members of ACI would like to thank the Local Committee, the Hostesses, and the Kansas and Missouri Chapters for their part in the 1983 Fall Convention.
QUALITY CONCRETE CONSTRUCTION
LUNCHEON
On Tuesday, September 27, 1983 the Kansas/Missouri ACI Chapters are planning a luncheon in conjunction with their seminar. The luncheon fee is $15.00. All Convention delegates are invited to purchase tickets and attend (even if you will not be attending the all day seminar).

COMPUTER DISPLAY AND WORKSHOP
ACI Committee E-702 will be sponsoring a Workshop on Mini-Micro Computers for Concrete Design on Tuesday, September 27, from 2:00 pm till 4:00 pm. Prior to the Workshop, there will be a computer display from 12:00 pm - 2:00 pm and also immediately following from 4:00 pm - 6:00 pm. All are invited to attend. (Workshop Handout Material may be purchased at the registration desk for $18.00.)

RILEM*-U.S. NATIONAL GROUP
Tuesday, September 27, 1983
6:00 pm-8:00 pm  Cocktail Reception and Dinner (no host basis)
Wednesday, September 28, 1983
1:30 pm-5:00 pm  RILEM*-U.S. National Group Meeting


RAP SESSION & CONTINENTAL BREAKFAST
A complimentary breakfast will be served on Wednesday, September 28, from 7:30 am to 8:00 am with the Rap Session starting at 8:00 am. This is your opportunity to ask ACI President Norman L. Scott and ACI Executive Vice President George F. Leyh any questions you may have regarding the Institute.

KANSAS/MISSOURI ACI CHAPTERS
DINNER MEETING
The Kansas/Missouri Chapters will be holding their Chapter Dinner Meeting during the Convention. Come join us on Thursday evening, September 29, for cocktails, dinner and meeting. Please purchase tickets at the ACI registration desk in Kansas City.
# PROGRAM COMMITTEE MEETINGS

Be sure to check the bulletin board for last minute changes or added meetings

<table>
<thead>
<tr>
<th>DAY/TIME</th>
<th>FUNCTION</th>
<th>ROOM</th>
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<tbody>
<tr>
<td>SATURDAY, SEPTEMBER 24, 1983</td>
<td>8:00 am-5:00 pm</td>
<td>Technical Activities Committee</td>
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<tr>
<td>SUNDAY, SEPTEMBER 25, 1983</td>
<td>8:00 am-5:00 pm</td>
<td>Technical Activities Committee (Subgroup 1)</td>
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<td>Technical Activities Committee (Subgroup 2)</td>
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<td>Technical Activities Committee (Subgroup 3)</td>
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<td>9:00 am-6:00 pm</td>
<td>Educational Activities Committee</td>
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<td></td>
<td>6:30 pm-8:00 pm</td>
<td>Wine and Cheese Party: Sponsored by ACI Kansas/Missouri Chapters</td>
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<td>MONDAY SEPTEMBER 26, 1983</td>
<td>8:30 am-12:30 pm</td>
<td>Technical Activities Committee</td>
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<td>8:30 am-10:30 am</td>
<td>Designing Structures (2hr)</td>
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<td>Certification (6hr)</td>
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<td>History (2hr)</td>
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<td>Research (4hr)</td>
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<td>Lightweight (2hr)</td>
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<td>Evaluation (2hr)</td>
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<td>Aggregates (4hr)</td>
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<td>Architectural (2hr)</td>
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<td>Parking Lots (2hr)</td>
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<td>Rotating &amp; Reciprocating Mach. (4hr)</td>
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<td>Grouting of Equipment &amp; Mach. (4hr)</td>
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<td>Steel Reinforcement (4hr)</td>
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<td>Repair (4hr)</td>
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<td>10:30 am-5:30 pm</td>
<td>All Day Film Session</td>
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<td>10:30 am-12:30 pm</td>
<td>Construction Review Committee (2hr)</td>
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<td>Field Tech (2hr)</td>
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<td>Lab Tech I (2hr)</td>
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<td>Field Tech I (2hr)</td>
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<td>Concrete Craftsman (2hr)</td>
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<td>Planning (2hr)</td>
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<td>Shotcrete Nozzleman (2hr)</td>
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<td>Research</td>
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<td>Durability (2hr)</td>
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<td>10:30 am-12:30 pm</td>
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<td>211-3</td>
<td>High Strength (2hr)</td>
<td>Benton A</td>
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<td>211-6</td>
<td>Heavyweight (2hr)</td>
<td>Benton B</td>
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<tr>
<td>*221</td>
<td>Aggregates</td>
<td>Van Horn C</td>
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<td>318</td>
<td>Standard Building Code (2hr)</td>
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<tr>
<td>*351-2</td>
<td>Rotating &amp; Reciprocating Mach.</td>
<td>Chicago C-1</td>
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<td>Grouting of Equipment &amp; Mach.</td>
<td>Chicago C-2</td>
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<td>439</td>
<td>Steel Reinforcement</td>
<td>Empire B</td>
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<td>Accelerated Curing (2hr)</td>
<td>Chicago B-2</td>
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<td>*546</td>
<td>Repair</td>
<td>Board Room</td>
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<td>1:00 pm-4:00 pm</td>
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<td>506</td>
<td>Shotcreting (6hr)</td>
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<td>2:00 pm-4:00 pm</td>
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<td>E601</td>
<td>Publications Committee (2hr)</td>
<td>Van Horn A</td>
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<td>E701</td>
<td>Seminars &amp; Workshops (4hr)</td>
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<td>E701</td>
<td>Construction Materials (4hr)</td>
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<td>Empire C</td>
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<td>207</td>
<td>Mass Concrete (4hr)</td>
<td>Chicago C-1</td>
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<td>211-8</td>
<td>With Admixtures (2hr)</td>
<td>Chouteau A</td>
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<td>228</td>
<td>Nondestructive Testing (4hr)</td>
<td>Chicago C-2</td>
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<tr>
<td>315</td>
<td>Detailing of Reinforcement (4hr)</td>
<td>Chicago B-2</td>
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<tr>
<td>318-B</td>
<td>Reinforcement &amp; Development (4hr)</td>
<td>Northrup</td>
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<td>318-C</td>
<td>Analysis, Serviceability &amp; Safety (4hr)</td>
<td>Fremont</td>
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<td>318-D</td>
<td>Flexure &amp; Axial Loads (4hr)</td>
<td>Benton A</td>
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<td>318-F</td>
<td>Two-Way Slabs (4hr)</td>
<td>Benton B</td>
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<td>343</td>
<td>Bridge Design (4hr)</td>
<td>Chouteau B</td>
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<td>Prestressed (4hr)</td>
<td>Board Room</td>
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<td>503</td>
<td>Adhesives (4hr)</td>
<td>Chicago B-1</td>
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<td>4:00 pm-6:00 pm</td>
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<td>*E601</td>
<td>Seminars &amp; Workshops</td>
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<td>Construction Materials</td>
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<td>*E902</td>
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<td>Empire C</td>
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<td>*207</td>
<td>Mass Concrete</td>
<td>Chicago C-1</td>
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<td>223</td>
<td>Expansive Cement (2hr)</td>
<td>Chouteau A</td>
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<td>*228</td>
<td>Nondestructive Testing</td>
<td>Chicago C-2</td>
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<td>*315</td>
<td>Detailing of Reinforcement</td>
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<td>Reinforcement &amp; Development</td>
<td>Northrup</td>
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<tr>
<td>*318-C</td>
<td>Analysis, Serviceability &amp; Safety</td>
<td>Fremont</td>
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<td>*318-D</td>
<td>Flexure &amp; Axial Loads</td>
<td>Benton A</td>
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<td>*318-F</td>
<td>Two-Way Slabs</td>
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<tr>
<td>*343</td>
<td>Bridge Design</td>
<td>Chouteau B</td>
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<tr>
<td>*423</td>
<td>Prestressed</td>
<td>Board Room</td>
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<tr>
<td>*503</td>
<td>Adhesives</td>
<td>Chicago B-1</td>
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<tr>
<td>4:00 pm-7:00 pm</td>
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<tr>
<td>*506</td>
<td>Shotcreting</td>
<td>Empire B</td>
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<tr>
<td>6:00 pm-8:00 pm</td>
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<tr>
<td>302</td>
<td>Construction of Floors (2hr)</td>
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<tr>
<td>6:00 pm-9:30 pm</td>
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<tr>
<td>351-3</td>
<td>Static Equipment (3½ hr)</td>
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<td>6:00 pm-10:00 pm</td>
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<td>214</td>
<td>Strength Tests (4hr)</td>
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<tr>
<td>358</td>
<td>Guideways (4hr)</td>
<td>Northrup</td>
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( ) Total Duration of Meeting
* Reconvening Committee
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<tr>
<td>7:30 pm-9:30 pm</td>
<td>E801 Student Concrete Projects (2hr)</td>
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<td>E903 Chairmen Training (2hr)</td>
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<td>444 Models of Structures</td>
<td>Fremont</td>
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**TUESDAY, SEPTEMBER 27, 1983**

| 8:30 am-10:30 am | Chapter Activities Committee (4hr) | Chouteau A |
| E703 | Institute & Industry Adv. Comm. (2hr) | Van Horn A |
| | Construction Practices (4hr) | Van Horn B |
| 318-A | General, Concrete & Construction (4hr) | Northrup |
| 318-E | Shear & Torsion (4hr) | Fremont |
| 318-G | Prestressed & Precast Concrete (4hr) | Benton A |
| 318-H | Seismic Provisions (4hr) | Benton B |
| 344 | Circular Prestressed Tanks (10 hours) | Empire C |
| 349-1 | General Materials Construction (4hr) | Suite |
| 349-2 | Design (4hr) | Suite |
| 349-3 | Reinforcement Steel (4hr) | Chicago C-1 |
| 349-4 | Special Provisions (4hr) | Chicago C-2 |
| 351 | Foundations (Equipt.) (4hr) | Empire A |
| 355 | Anchorage (8hr) | Van Horn C |
| 359-WG | Testing & Protection (8hr) | Empire B |

| 8:30 am-12:00 pm | Seminar: Quality Concrete Construction (Part I) | Chicago B |

| 10:30 am-12:30 pm | Chapter Activities Committee | Chouteau A |
| *E-703 | Construction Practices | Van Horn B |
| 213 | Lightweight Aggregates (2hr) | Chouteau B |
| *318-A | General, Concrete & Construction | Northrup |
| *318-E | Shear & Torsion | Fremont |
| *318-G | Prestressed & Precast Concrete | Benton A |
| *318-H | Seismic Provisions | Benton B |
| *344 | Circular Prestressed Tanks | Empire C |
| *349-1 | General Materials Construction | Suite |
| *349-2 | Design | Suite |
| *349-3 | Reinforcement & Steel | Chicago C-1 |
| *349-4 | Special Provisions | Chicago C-2 |
| *351 | Foundations (Equipt.) | Empire A |
| *355 | Anchorage | Van Horn C |
| *359-WG | Testing & Protection | Empire B |
| 523 | Insulating & Cellular (2hr) | Van Horn A |

| 12:00 pm-2:00 pm | Luncheon: Quality Concrete Construction | New York B |
| | Computer Display | Atlanta |

| 2:00 pm-4:00 pm | Educational Activities Comm. (4hr) | Van Horn A |
| | Membership Committee (2hr) | Suite |
| | Planning Committee (4hr) | Van Horn B |
| 211-4 | Editorial (2hr) | Chicago C-2 |
| 222 | Corrosion (2hr) | Chouteau B |

( ) Total Duration of Meeting
* Reconvening Committee
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<tr>
<td>224</td>
<td>Cracking (2hr)</td>
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<td>302</td>
<td>Construction of Floors (4hr)</td>
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<tr>
<td>307-1</td>
<td>Earthquakes (2hr)</td>
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</tr>
<tr>
<td>318</td>
<td>Standard Building Code (4hr)</td>
<td>New York A</td>
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<tr>
<td>* 344</td>
<td>Circular Prestressed Tanks</td>
<td>Empire C</td>
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<tr>
<td>349</td>
<td>Nuclear Structures (4hr)</td>
<td>Empire A</td>
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<tr>
<td>* 359-WG</td>
<td>Testing &amp; Protection</td>
<td>Empire B</td>
</tr>
<tr>
<td>363</td>
<td>High Strength (4hr)</td>
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<tr>
<td>435</td>
<td>Deflection (4hr)</td>
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<td>Shotcreting (4hr)</td>
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<td>533</td>
<td>Wall Panels (2hr)</td>
<td>Van Horn C</td>
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2:00 pm-5:00 pm
- Workshop: Mini-Micro Computer Programs for Concrete Design
- Seminar: Quality Concrete Construction (Part II)

4:00 pm-6:00 pm
- Computer Display
- Educational Activities Committee
- Metrication Committee (2hr)
- Planning Committee
* 302    Construction of Floors | Benton B |
307-2    Wind (2hr) | Benton A |
* 318    Standard Building Code | New York A |
* 344    Circular Prestressed Tanks | Empire C |
* 349    Nuclear Structures | Empire A |
* 355    Anchorage | Van Horn C |
* 359-WG Testing & Protection | Empire B |
* 363    High Strength | Northrup |
* 435    Deflection | Chicago C-1 |
* 506    Shotcreting | Fremont |

5:30 pm-9:30 pm
- Student Program | New York B |

6:00 pm-8:00 pm
- Rilem Reception and Dinner | Outside Hotel |
212      Chemical Admixtures (2hr) | Fremont |
* 355    Anchorage | Van Horn C |

6:00 pm-9:30 pm
351-4    Grouting of Equipment & Mach. (3½ hr) | Northrup |

6:00 pm-10:00 pm
325      Pavements (4hr) | Van Horn B |
360      Design of Slabs on Grade (4hr) | Van Horn A |
504      Joint Sealants (4hr) | Benton A |

7:00 pm-11:00 pm
548      Polymers (4hr) | Empire A |

7:30 pm-9:30 pm
- Seminar: Quality Concrete Constr., (Part III)
* 215    Fatigue (2hr) | Chicago B |
* 344    Circular Prestressed Tanks | Empire C |
441      Columns (2hr) | Suite |

7:30 pm-10:30 pm
445      Shear & Torsion (3hr) | Benton B |

(*) Total Duration of Meeting
* Reconstituting Committee
**WEDNESDAY, SEPTEMBER 28, 1983**

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<tr>
<td>7:30 am-8:45 am</td>
<td>Rap Session</td>
<td>Atlanta</td>
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<td>Continental Breakfast</td>
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<td>8:45 am-9:00 am</td>
<td>Kansas City Slide Presentation</td>
<td>New York</td>
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<td>8:30 am-10:30 am</td>
<td>Tolerances (4hr)</td>
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<tr>
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<td>Fire Resistance (2hr)</td>
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<tr>
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<td>Cold Weather (4hr)</td>
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<tr>
<td></td>
<td>Ultimate Design/Chimneys (2hr)</td>
<td>Benton A</td>
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<tr>
<td></td>
<td>Curing (4hr)</td>
<td>Van Horn B</td>
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<tr>
<td></td>
<td>Residential (4hr)</td>
<td>Fremont</td>
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<tr>
<td></td>
<td>Circular Prestressed Tanks (2hr)</td>
<td>Empire B</td>
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<tr>
<td></td>
<td>Masonry Structures (6hr)</td>
<td>Van Horn C</td>
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<tr>
<td></td>
<td>Fiber Reinforced (8hr)</td>
<td>Northrup</td>
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<tr>
<td></td>
<td>Railroad Ties (4hr)</td>
<td>Empire C</td>
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<tr>
<td></td>
<td>Refractory (8hr)</td>
<td>Chouteau B</td>
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<tr>
<td></td>
<td>Cement Grouting (4hr)</td>
<td>Suite</td>
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<tr>
<td>9:00 am-12:00 pm</td>
<td>General Session</td>
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<tr>
<td>10:30 am-12:30 pm</td>
<td>Tolerances</td>
<td>Benton B</td>
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<td>Proportioning (2hr)</td>
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<td>Cold Weather</td>
<td>Van Horn A</td>
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<td></td>
<td>Chimneys (2hr)</td>
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<tr>
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<td>Curing</td>
<td>Van Horn B</td>
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<tr>
<td></td>
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<td>Van Horn C</td>
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<td>Fiber Reinforced</td>
<td>Northrup</td>
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<td>Railroad Ties</td>
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<td>Cement Grouting</td>
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<tr>
<td>12:00 pm-1:00 pm</td>
<td>Standards Presentation</td>
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<td>1:00 pm-3:00 pm</td>
<td>Standards Board (2hr)</td>
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<td>1:00 pm-5:00 pm</td>
<td>Convention Committee (4hr)</td>
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<tr>
<td>1:30 pm-5:00 pm</td>
<td>Rilem - U.S. National Group</td>
<td>Van Horn B</td>
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<tr>
<td>2:00 pm-4:00 pm</td>
<td>Construction Liaison Comm. (2hr)</td>
<td>Van Horn A</td>
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<td>Notation &amp; Nomenclature (4hr)</td>
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<td>Fly Ash (2hr)</td>
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<td>Inspection (4hr)</td>
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<td>Bridge Construction (4hr)</td>
<td>Empire C</td>
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<td>Masonry Structures</td>
<td>Van Horn C</td>
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<td>Fiber Reinforced</td>
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<tr>
<td></td>
<td>Refractory</td>
<td>Chouteau B</td>
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<tr>
<td></td>
<td>Tilt-up (4hr)</td>
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<tr>
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<td>Swimming Pools (4hr)</td>
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( ) Total Duration of Meeting
* Reconvening Committee
WEDNESDAY/THURSDAY

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<tr>
<td>2:00 pm-5:00 pm</td>
<td>• Sneak Preview of ACI 318-83</td>
<td>New York A</td>
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<tr>
<td></td>
<td>• History of Concrete</td>
<td>Chicago C</td>
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<tr>
<td></td>
<td>• Innovative Materials and Techniques</td>
<td>Chicago B</td>
</tr>
<tr>
<td></td>
<td>in Cement Grouting (Part I)</td>
<td></td>
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<tr>
<td></td>
<td>• Open Paper Session (Part I)</td>
<td>Atlanta</td>
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<tr>
<td>4:00 pm-6:00 pm</td>
<td>* 116 Notation &amp; Nomenclature</td>
<td>Chouteau A</td>
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<td>122 Energy Conservation (2hr)</td>
<td>Van Horn C</td>
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<td>209 Creep &amp; Shrinkage (2hr)</td>
<td>Board Room</td>
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<tr>
<td></td>
<td>226-2 Slag (2hr)</td>
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<td>301-TG SRC-81 (2hr)</td>
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<tr>
<td></td>
<td>* 311 Inspection</td>
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<td></td>
<td>* 345 Bridge Construction</td>
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<tr>
<td></td>
<td>* 544 Fiber Reinforced</td>
<td>Northrup</td>
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<tr>
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<td>* 547 Refractory</td>
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<tr>
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<td>* 551 Tilt-up</td>
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<td>* 553 Swimming Pools</td>
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<tr>
<td>6:30 pm-8:00 pm</td>
<td>• Concrete Mixer</td>
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<tr>
<td>7:30 pm-9:30 pm</td>
<td>554-C Task Group (2hr)</td>
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<td>554-K Task Group (2hr)</td>
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<tr>
<td>8:00 pm-10:00 pm</td>
<td>348 Safety (2hr)</td>
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THURSDAY, SEPTEMBER 29, 1983

8:30 am-10:30 am

| 121           | Quality Assurance (6hr)                      | Van Horn B    |
| 226           | Fly Ash, Slag, etc. (2hr)                    | Empire A      |
| 304           | Measuring, Mixing, Trans/Placing (4hr)       | Northrup      |
| 309-Sub       | Subcommittees 1, 2, 3, 4 (2hr)               | Empire B      |
| 336           | Footings (4hr)                               | Van Horn A    |
| 352           | Joints (2hr)                                 | Benton A      |
| 359-WG        | Liners (6hr)                                 | Atlanta B-1   |
| 359-WG        | Reinforcing of Prestressing (6hr)            | Atlanta B-2   |
| 359-WG        | Concrete (6hr)                               | Van Horn C    |
| 530           | Masonry Structures (6hr)                     | Empire C      |
| 547           | Refractory (6hr)                             | Board Room    |
| 554           | Bearing Systems (4hr)                        |               |

8:30 am-12:30 pm

• Probability Based Load Combinations for Nuclear Structures

9:00 am-12:00 pm

• Research in Progress
• Polymers in Concrete (Part I)
• Design and Construction of Shrinkage Compensating Concrete

9:00 am-6:00 pm

10:30 am-12:30 pm

* 121 Quality Assurance
* 301 Structural Specifications (7hr)
* 304 Measuring, Mixing, Trans/Placing

(*) Total Duration of Meeting
* Reopening Committee
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<td>309-Sub Subcommittees 5, 6, 7, 8 (2hr)</td>
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<td>* 336 Footings</td>
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<td>347 Formwork (8hr)</td>
<td>Benton A</td>
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<td>* 359-WG Liners</td>
<td>Atlanta B-1</td>
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<tr>
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<td>* 359-WG Reinforcing of Prestressing</td>
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<td>* 359-WG Concrete</td>
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<tr>
<td></td>
<td>* 530 Masonry Structures</td>
<td>Empire C</td>
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<tr>
<td></td>
<td>* 547 Refractory</td>
<td>Board Room</td>
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<td>* 554 Bearing Systems</td>
<td>Fremont</td>
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<td>1:00 pm-4:00 pm</td>
<td>359-Sub Design (5hr)</td>
<td>Benton B</td>
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<td>2:00 pm-3:00 pm</td>
<td>118/225 Computers/Hydraulic Cements (4hr)</td>
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<td>225/118 Hydraulic Cements/Computers (4hr)</td>
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<td>* 121 Quality Assurance</td>
<td>Van Horn B</td>
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<td>* 301 Structural Specifications</td>
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<td>* 347 Formwork</td>
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<td>350 Sanitary Engineering Structures (4hr)</td>
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<td>* 359-WG Concrete</td>
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<td>442 Lateral Forces (4hr)</td>
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<td>* 530 Masonry Structures</td>
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<td>* 547 Refractory</td>
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<td>2:00 pm-5:00 pm</td>
<td>2:00 pm-5:00 pm</td>
<td>New York B</td>
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<td>* Polymers in Concrete (Part II)</td>
<td>Chicago A</td>
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<td>* Controlled Low-Strength Materials</td>
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<td>* Innovative Materials and Techniques in Cement Grouting (Part II)</td>
<td>Chicago B</td>
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<td>* George Winter Symposium: Concrete Material and Structures</td>
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<td>3:00 pm-4:00 pm</td>
<td>225-1 Mathematical Modeling (1hr)</td>
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<td>225-1 Mathematical Modeling (1hr)</td>
<td>Northrup</td>
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<tr>
<td>3:00 am-6:00 pm</td>
<td>118 Computers (3hr)</td>
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<td>E901 Scholarships (2hr)</td>
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<td>227 Radioactive Waste Management (2hr)</td>
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<td>309 Consolidation (2hr)</td>
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<tr>
<td></td>
<td>* 347 Formwork</td>
<td>Benton A</td>
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<tr>
<td></td>
<td>* 350 Sanitary Engineering Structures</td>
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<td>Benton B</td>
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<td>359-Sub Materials, Constr. &amp; Exam. (2hr)</td>
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<td>* 442 Lateral Forces</td>
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<td></td>
<td>543 Piles (2hr)</td>
<td>Board Room</td>
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<td>4:00 pm-7:00 pm</td>
<td>225 Hydraulic Cements (3hr)</td>
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</tr>
<tr>
<td>6:30 pm-10:30 pm</td>
<td>Kansas/Missouri Chapters Dinner Meeting</td>
<td>Atlanta</td>
</tr>
<tr>
<td>7:30 pm-9:30 pm</td>
<td>* Formwork</td>
<td>Benton A</td>
</tr>
<tr>
<td></td>
<td>549 Ferrocement (2hr)</td>
<td>Van Horn B</td>
</tr>
<tr>
<td>7:30 pm-10:00 pm</td>
<td>Forum: Inspection of Concrete — How Good Is It?</td>
<td>Chicago B &amp; C</td>
</tr>
</tbody>
</table>

FRIDAY, SEPTEMBER 30, 1983

8:00 am-2:00 pm
| 359 Nuclear Vessels (6hr) | Empire A |

8:30 am-10:30 am
| 210 Erosion in Hydraulic Structures (2hr) | Northrup |
| 340 Strength Design Handbook (4hr) | Chouteau A |
| 362 Parking Structures (4hr) | Van Horn C |
| 364 Rehabilitation (4hr) | Benton B |
| 408 Bond & Development of Reinf. (4hr) | Van Horn B |
| 437 Strength of Structures (4hr) | Benton A |

8:30 am-5:00 pm
| 531 Concrete Masonry Structures (8½ hr) | Chouteau B |

9:00 am-12:00 pm
| * Concrete Railroad Ties | Chicago B |
| * Concrete Sanitary Engineering Structures — Problems and Solutions | Empire B & C |
| * Consolidation of Concrete | Chicago C |
| * Open Paper Session (Part II) | Atlanta |

10:30 am-12:30 pm
| * 340 Strength Design Handbook | Chouteau A |
| * 362 Parking Structures | Van Horn C |
| * 364 Rehabilitation | Benton B |
| * 408 Bond & Development of Reinf. | Van Horn B |
| * 437 Strength of Structures | Benton A |
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*American Concrete Institute
P.O. Box 19150
Detroit, Michigan 48219
**FILM SESSION**

**MONDAY, September 26, 1983**
10:30 am-5:30 pm  Room: Atlanta Ballroom

<table>
<thead>
<tr>
<th>TIME</th>
<th>FIRST SHOWING</th>
<th>SECOND SHOWING</th>
<th>FILM</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td>10:30 am</td>
<td>1:40 pm</td>
<td>&quot;Prestressed Concrete Pavement Highway Construction - Dulles International Airport&quot;</td>
</tr>
<tr>
<td>11:10 am</td>
<td>11:10 am</td>
<td>2:20 pm</td>
<td>&quot;RCD Construction Method, Shemajegawa Dam, Japan&quot;</td>
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<tr>
<td>11:45 am</td>
<td>11:45 am</td>
<td>2:50 pm</td>
<td>&quot;Concrete Pavement Restoration&quot;</td>
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<tr>
<td>12:10 pm</td>
<td>12:10 pm</td>
<td>3:15 pm</td>
<td>&quot;Flowing Concrete&quot;</td>
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<tr>
<td>12:25 pm</td>
<td>12:25 pm</td>
<td>3:30 pm</td>
<td>&quot;Concrete for Durability&quot;</td>
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<tr>
<td>12:45 pm</td>
<td>12:45 pm</td>
<td>3:50 pm</td>
<td>&quot;Prestressed Concrete Pavement Construction in Competition with Continuously Reinforced Concrete Highway Construction in Mississippi&quot;</td>
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<tr>
<td>1:20 pm</td>
<td>1:20 pm</td>
<td>4:25 pm</td>
<td>&quot;Performance Concrete&quot;</td>
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<tr>
<td>5:00-5:30 pm</td>
<td>5:00-5:30 pm</td>
<td>5:00-5:30 pm</td>
<td>Open for Film Requests</td>
</tr>
</tbody>
</table>
STUDENT ACTIVITIES
SESSION

TUESDAY, SEPTEMBER 27, 1983
5:30 pm - 9:30 pm

Ballroom: New York B

STUDENT PROGRAM
Sponsored by ACI Committee E-801

Session Chairman: R. John Craig
Associate Professor
Department of Civil and
Environmental Engineering
New Jersey Institute of Technology
Newark, New Jersey

Moderator: Luke M. Snell
Consultant/Associate Professor
Southern Illinois University
Edwardsville, Illinois

This program has three main goals:
1. Create student interest and familiarity with ACI
2. Stimulate some interest in working concrete projects at both the
   undergraduate and graduate levels
3. Show students some of the existing careers in concrete con-
   struction and design

The program is geared for the following:
1. Students—undergraduate and graduate
2. General members of ACI
3. Those interested in Committee E-801 activities

PROGRAM
5:30 pm Concrete Flying Saucer Contest
   Located in open area adjacent to Hyatt Regency Hotel
   (see target set up)
7:30 pm E-801 Student Activities
   R. John Craig, Chairman, E-801 Committee
   Careers Related to Concrete Construction and Design
   Merle Brander, President, Brander Construction
   Technology, Greenbay, Wisconsin
   Modeling of Precast Concrete Structures
   Harry Harris, Professor, Civil Engineering Department
   Drexel University, Philadelphia, Pennsylvania
   Presentation of Papers by Students
   Social Hour

PHOTO CONTEST
The entries for the Third Annual Student Photo Contest are on display
at the Student Concrete Projects Display table. Please vote for 1st,
2nd, and 3rd place using ballots in your ACI information packets.
TECHNICAL SESSIONS

TUESDAY, September 27, 1983
8:30 am-9:30 pm

Ballroom: Chicago B

SEMINAR: QUALITY CONCRETE CONSTRUCTION
Sponsored by the ACI Kansas and Missouri Chapters

Session Chairman: Jo Coke
Gifford-Hill Chemical
Lenexa, Kansas

PART I
The Contractor and ACI
Eugene Boeke, Vice President, Beers Construction Company, Atlanta, Georgia

Concrete Specifications
George Frey, Vice President, Werner Maintenance Company, Columbus, Ohio

Simplified Design of Formwork
Paul H. Sommers, Chief Engineer, Algernon Blair, Inc., Montgomery, Alabama

Tolerances in Concrete Structures
W. Robert Little, Vice President, Construction, The Landmarks Group, Atlanta, Georgia

Selecting the Right Computer Software
John Maulitsby, Constructive Computing, Inc., Kansas City, Kansas

PART II
Engineering of Concrete Materials
Douglas W. Deno, Technical Marketing Manager, Trinity Metroplex Division, General Portland, Inc., Dallas, Texas

Concrete Slab (on Grade) Construction

The Precaster’s Past on the Quality Construction Team
Francis J. Jacques, Senior Vice President, Engineering and Research, Stanley Structures, Denver, Colorado

Question/Answer Panel
PART III
Cause & Prevention of Failures
Dov Kaminetzky, President, Feld, Kaminetzky & Cohen, P.C., New York, New York

The Economy of Quality Admixtures
Philip A. Smith, Chief Engineer, Gifford-Hill & Company, Inc., Chemical Division, Charlotte, North Carolina

Your Ready-Mixed Concrete Supplier—A Member of the Team
Richard C. Meininger, Director of Engineering Research, National Ready-Mix Concrete Association, Silver Spring, Maryland

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<tbody>
<tr>
<td>Seminar Fee</td>
<td>$25.00</td>
</tr>
<tr>
<td>Luncheon</td>
<td>$15.00</td>
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</tbody>
</table>

Please purchase your tickets at the registration desk.
TECHNICAL SESSION

TUESDAY, SEPTEMBER 27, 1983
12:00 pm-2:00 pm Computer Display
2:00 pm-4:00 pm Workshop
4:00 pm-6:00 pm Computer Display

Ballroom: Atlanta

WORKSHOP: MINI-MICRO COMPUTER
PROGRAMS FOR CONCRETE DESIGN
Sponsored by ACI Committee E-702

Session Chairman:
Luke M. Snell
Consultant/Associate Professor
Southern Illinois University
Edwardsville, Illinois

Industrial Floor Slabs: A Thickness Solution
Boyd C. Ringo, Professor, University of Cincinnati, Department of
Civil Engineering, Cincinnati, Ohio; Ronald Steenkan, University of
Cincinnati, Cincinnati, Ohio

Strength and Stiffness of Round Columns
Neil T. Cichy, Staff Engineer, Packer Engineering Association, Inc.,
Naperville, Illinois; Albert J. Gouwens, Director of Structural
Engineering, Packer Engineering Association, Inc., Naperville, Illinois

Footing Design with Programmable Calculator
Donald E. Milks, Professor and Chairman of Civil Engineering, Ohio
Northern University, Ada, Ohio

Reinforced Concrete Column Design
Grant T. Halvorsen, Assistant Professor of Civil Engineering, West
Virginia University, Morgantown, West Virginia

Anchor Bolt Design
Phillip N. Kirchner, Senior Engineer, Gilbert/Commonwealth,
Midland, Michigan; Joseph McMaster, Senior Engineer, Gilbert/
Commonwealth, Midland, Michigan

Computer Design of Concrete Beams
Julian Snyder, Principal, Van Wert, Snyder, Sklarsky & Rowley,
Buffalo, New York; Peter H. Grace, Associate, Van Wert, Snyder,
Sklarsky & Rowley, Buffalo, New York

Acceptance and Statistical Evaluation of Structural Concrete
Norval Wallace, Professor, Southern Illinois University, Edwardsville,
Illinois; Luke M. Snell, Consultant/Associate Professor, Southern
Illinois University, Edwardsville, Illinois

"Design of Structural Concrete
Computer Program
Series" $18.00

This material may be purchased
at the registration desk.
BREFFAST ASSEMBLY

WEDNESDAY, SEPTEMBER 28, 1983
7:30 am-8:45 am

Ballroom: Atlanta

BREFFAST ASSEMBLY AND RAP SESSION
A complimentary breakfast will be served from 7:30 am to 8:00 am
with the Rap Session starting at 8:00 am.

WHAT DO YOU WANT TO KNOW
ABOUT ACI?

Norman L. Scott
President
&
George F. Leyh
Executive Vice President

Invite YOU to Ask Them.
GENERAL SESSION

WEDNESDAY, SEPTEMBER 28, 1983
8:45 am - 12:00 pm

Ballroom: New York

GENERAL SESSION

Session Chairman: John Van Deurzen
General Co-Chairman
1983 Fall Convention
Van Deurzen and Associates
Overland Park, Kansas

Welcome to Kansas City
John Van Deurzen, General Co-Chairman, 1983 Fall Convention, ACI
Kansas Chapter

Raymond E. Davis Lecture: Concrete Energy and Durability
Gunnar M. Idorn, Research Consultant, G.M. Idorn Consult Aps,
Naerum, Denmark

Certificates of Appreciation for the 1983 Fall Convention

Introduction of Foreign Visitors

Introduction of Chapter Officers

Presentation of Bylaws Revision

Concrete: The Long Range Prospects
Presented by the ACI Planning Committee

Chairman: W. Burr Bennett
President
W. Burr Bennett, Ltd.
Chicago, Illinois

The Prospects for Concrete Construction Globally
Fred Moavenzadeh, Professor, Center for Construction Research and
Education, Massachusetts Institute of Technology, Cambridge,
Massachusetts

The Prospects for Concrete Construction in North America
Ben C. Gerwick, Jr., Professor, San Francisco, California

Prospective Changes in Concrete Materials
Robert Philleo, Office of Chief Engineer, Washington, D.C.

Prospective Changes in Design of Concrete Structures
James MacGregor, Professor, University of Alberta, Civil Engineer-
ing, Edmonton, Alberta, Canada

Summary: The Long-Range Prospects
W. Burr Bennett, President, W. Burr Bennett, Ltd., Chicago Illinois
STANDARDS PRESENTATION

WEDNESDAY, SEPTEMBER 28, 1983
12:00 pm - 1:00 pm

Ballroom: New York

STANDARDS PRESENTATION

Session Chairman: Norman L. Scott
ACI President
President, Consulting Engineers Group
Glenview, Illinois

Proposed Revision of ACI 301-72 (revised 1981) "Specifications for Structural Concrete for Buildings"
David P. Gustafson, Chairman, ACI Committee 301, Concrete Reinforcing Steel Institute, Schaumburg, Illinois

Proposed Revision for ACI 349-80 "Code Requirements for Nuclear Safety Related Concrete Structures"
Frederick L. Moreadith, Chairman, ACI Committee 349, Gilbert Associates, Inc., Reading, Pennsylvania
WEDNESDAY, SEPTEMBER 28, 1983
2:00 pm - 5:00 pm
Ballroom: New York A

SNEAK PREVIEW OF ACI 318-83
Sponsored by ACI Committee 318

Session Chairman: Chester P. Siess
Professor Emeritus
University of Illinois
Civil Engineering Department
Urbana, Illinois


Presented by members of ACI Committee 318: Standards Building Code.
TECHNICAL SESSION

WEDNESDAY, SEPTEMBER 28, 1983
2:00 pm-5:00 pm

Ballroom: Chicago C

HISTORY OF CONCRETE

Sponsored by ACI Committee 120

Session Chairman: Raymond C. Heun
Executive Director
New York Concrete Construction
Institute
New York, New York

Perspectives on the History of Concrete
Howard Newlon, Jr., Director, Virginia Highway Research Council, Charlottesville, Virginia; Emory L. Kemp, Professor, West Virginia University, Morgantown, West Virginia

A Survey of Concrete Technology in Kansas
Walter N. Snow, Supervising Senior Engineer, Marley Cooling Tower Company, Mission, Kansas

The Cleft-Ridge Span: America’s First Concrete Arch
William P. Chamberlin, Research Engineer, New York State Department of Transportation, Albany, New York

Rehabilitation of the Cleft-Ridge Span

A Landmark Concrete Structure in Mexico City
Horacio Ramirez de Alba, Head of Concrete Structures Section, Instituto Mexicano del Cemento y del Concreto, Delegacion Alvaro Obregon, Mexico; Cutablet Diaz-Gomez, Director, Mexicano del Cemento y del Concreto, Delegacion Alvaro Obregon, Mexico

The Bridges of John B. Leonard—1905 to 1925
John W. Snyder, Chief Architectural Historian, California Department of Transportation, Sacramento, California
INNOVATIVE MATERIALS AND TECHNIQUES
IN CEMENT GROUTING (PART I)
Sponsored by ACI Committee 552

Session Chairman: Joseph P. Welsh
Vice President
Hayward/Baker Company
Odenton, Maryland

Grouting High Water Inflows in Vat Tunnel
Peter P. Aberle, Grouting Specialist, U.S. Bureau of Reclamation,
Engineering and Research Center, Denver, Colorado; Edward S.
Scott, U.S. Bureau of Reclamation, Engineering and Research
Center, Denver, Colorado

The Use of Condensed Silica Fume in Grouts
Pierre-Claude Altin, Universite' de Sherbrooke, Sherbrooke,
Quebec, Canada; Richard Parizeau, Universite' de Sherbrooke, Sher-
brooke, Quebec, Canada; Gerald Ballivy, Universite' de Sherbrooke,
Sherbrooke, Quebec, Canada

The Development of Grout Technology and Grouting Techniques
in Brazil
Francisco R. Andriolo, Engineer, Themag Engenharia Ldta, Sao
Paulo, Brazil; Jose Carlos Gama, Engineer, Themag Engenharia Ldta,
Sao Paulo, Brazil; Luercio Scanduzi, Themag Engenharia Ldta, Sao
Paulo, Brazil; Bento Carlos Sgarboza, Themag Engenharia Ldta, Sao
Paulo, Brazil

Design and Prestress Grouting of Concrete-Lined High Pressure
Tunnels at Drakensberg
Lou P. Gonano, Senior Geotechnical Engineer, Golder Associates,
Inc., Bellevue, Washington; John C. Sharp, Consultant, Channel
Islands, United Kingdom

Use of Acoustic Emissions as a Nondestructive Testing Method to
Monitor Cement Grouting
Robert M. Koerner, Professor, Drexel University, Department of Civil
Engineering, Philadelphia, Pennsylvania; James D. Leard, Research
Engineer, Acoustic Emission Technology Corporation, Sacramento,
California; Joseph P. Welsh, Vice President, Hayward/Baker
Company, Odenton, Maryland

Drilled Peirs Foundation Rehabilitation Using Cement Grouting
Charles V. Logie, Partner, Dames and Moore, Golden, Colorado

Please note: Part II will be presented Thursday, September 29,
2:00 pm-5:00 pm in Chicago B.
OPEN PAPER SESSION (PART I)
Sponsored by Technical Activities Committee

Session Chairman: David W. Fowler
Professor
University of Texas at Austin
Architectural Engineering
Austin, Texas

Fiber Reinforced Tilt-Up Panels
Lloyd Hackman, Ribbon Technology Corporation, Canal Winchester, Ohio

High Strength Bolts as Shear Connectors in Rehabilitation Work
David J. Dedic, Structural Engineer, Electric Boat Division, General Dynamics, Niantic, Connecticut; F. Wayne Klaiber, Professor of Civil Engineering, Iowa State University, Ames, Iowa

Confinement of High Strength Concrete Columns Subjected to Static and Dynamics
S. P. Shah, Professor of Civil Engineering, Northwestern University, Evanston, Illinois; A. Fatidis, Research Assistant, Northwestern University, Evanston, Illinois

Case History: Sulphur Concrete Floor Construction at AMAX Nickel Company
Scott S. Pickard, Vice President, Marketing, Sulcon, Inc., Champaign, Illinois

Statistical Variations in Concrete Test Results
Luke M. Snell, Consultant, Associate Professor of Engineering, Southern Illinois University, Edwardsville, Illinois; Norval Wallace, Professor of Engineering, Southern Illinois University, Edwardsville, Illinois; Robert Rutledge, Professor of Engineering, Southern Illinois University, Edwardsville, Illinois

Limit States of Cracking and Ultimate Strength of Arbitrary Concrete Sections Under Biaxial Loading
Makoto Kawakami, Associate Professor, Akita University, Akita-shi, Japan; Hiroshi Tokuda, Professor, Akita University, Akita-shi, Japan; Makoto Kagaya, Research Associate, Akita University, Akita-shi, Japan; Masaki Hirata, Graduate Student, Akita University, Akita-shi, Japan

Please note: Part II will be presented Friday, September 30,
9:00 am-12:00 pm in Atlanta Ballroom
THURSDAY, SEPTEMBER 29, 1983
8:30 am - 12:30 pm
Ballroom: Chicago C

PROBABILITY BASED LOAD COMBINATIONS
FOR NUCLEAR STRUCTURES
Sponsored by TAC Ad Hoc Committee and ACI Committee 349

Session Chairman: Chester P. Siess
Professor Emeritus
University of Illinois
Civil Engineering Department
Urbana, Illinois

Introduction
Hans Ashar, Research Manager, U.S. Nuclear Regulatory Commis-
sion, Washington, D.C.

Opening Remarks
Chester P. Siess, Professor Emeritus, University of Illinois, Civil
Engineering Department, Urbana, Illinois

Development of ACI 359
J. D. Stevenson, Stevenson & Associates, Cleveland, Ohio

Development of ACI 349 Code
Frederick L. Moreadith, Manager of Power Engineering, Gilbert
Associates, Inc., Reading, Pennsylvania; Timothy L. Moore, Struc-
tural Engineer, Gilbert Associates, Inc., Reading, Pennsylvania

Recent ACI Committee 349 Load Combination Considerations
J. F. Fulton, Supervisor, Concrete Containments, Gilbert/Com-
monwealth, Reading, Pennsylvania

Probability Based Load Combinations—An Overview of NRC Research
Programs
Howard Hwang, Group Leader, Brookhaven National Laboratory,
Structural Analysis Division, Upton, New York

Reliability Analysis of Concrete Containment Structures
M. Shinozuka, Renwick Professor, Department of Civil Engineering,
Columbia University, New York, New York

Reliability Analysis of Shear Wall Structures
P. C. Wang, Professor, Polytechnic Institute of New York, Brooklyn,
New York

Proposed Load Combinations for Seismic Category I Structures
Bruce Ellingwood, Group Leader, National Bureau of Standards,
Washington, D.C.

Critique and Suggestions
A.H.S. Ang, Professor of Civil Engineering, University of Illinois,
Urbana, Illinois

Discussion
Chester P. Siess, Professor Emeritus, University of Illinois, Civil
Engineering Department, Urbana, Illinois

To present up-to-date results of NRC-sponsored research efforts on
probability based loads and load combinations, and to present current
code backgrounds regarding loads and load combinations. The
presentations will be made both by NRC-sponsored researchers and
representatives of ACI Committees 349 and 359.
THURSDAY, SEPTEMBER 29, 1983
9:00 am - 12:00 pm  Ballroom: New York B

RESEARCH IN PROGRESS
Sponsored by ACI Committee 123

Session Chairman: Charles F. Scholer
                  Professor
                  Purdue University
                  West Lafayette, Indiana

Silica Fume Concrete for Abrasion-Erosion Resistance
Terence C. Holland, Research Civil Engineer, Waterways Experiment
Station, Vicksburg, Mississippi

Post-Peak Response of Concrete in Direct Tension
S. P. Shan, Professor of Civil Engineering, Northwestern University,
Evanston, Illinois; V. S. Gopalaratnam, Northwestern University,
Evanston, Illinois

Effects of Granulated Blast-Furnace Slag on the Resistance to
Cloride Penetration
Jere H. Rose, Manager, Technical Services, Atlantic Cement Com-
pany, Inc., Stamford, Connecticut

Tests of Columns Subjected to Reversals of Shear and Axial Force
Daniel P. Abrams, Assistant Professor, University of Colorado,
Boulder, Colorado; William Epp, Research Assistant, University of
Colorado, Boulder, Colorado

A Permeability Test of Water Soluble Calcium Chloride in Concrete
Gary Vondran, Product Manager, Hill Brothers Chemical Company,
San Jose, California

Alkali-Silica Reactivity—Effectiveness of Drying and Cooling
In Inhibiting Expansions
David Stark, Principal Research Petrographer, Portland Cement
Association, Skokie, Illinois

Fire Tests of Reinforced Concrete Columns
T. D. Lin, Senior Research Engineer, Portland Cement Association,
Skokie, Illinois; T. T. Lie, Senior Research Officer, National Research
Council of Canada, Ottawa, Ontario, Canada

New Research in Progress
G. W. DePuy, Research Engineer, Supervisory Materials, Bureau of
Reclamation, Denver, Colorado

NRMCA Series J-159, Neoprene Pads with Steel Ring and Base Plate
for Capping Test Cylinders
Tarek S. Khan, National Sand & Gravel Association, Silver Spring,
Maryland

Nondestructive Evaluation of Plastic Concrete on the East Huntington
Bridge
Richard A. Muenow, Muenow and Associates Inc., Charlotte, North
Carolina; Earl Soyoc, Director of Construction, West Virginia HD,
Charleston, West Virginia; Melvin Abrams, Associate, Muenow &

39
POLYMERS IN CONCRETE (PART I)
Sponsored by ACI Committee 548

Session Chairman: James T. Dikeou
Quazite Corporation
Houston, Texas

Polymers in Concrete: State of the Art
David W. Fowler, Professor of Civil Engineering, University of Texas/Austin, Austin, Texas; James T. Dikeou, Quazite Corporation, Houston, Texas

Modification of Portland Cement Concrete by Epoxy as Admixture
Sandro Popovics, Professor, Drexel University, Philadelphia, Pennsylvania

Corrosion Resistant Pipe Liners—Polymer Concrete
Albert Kaeding, Quazite Corporation, Houston, Texas

Machine Application of Polymer Concrete for Highway Repairs
W. J. Simonsen, President, Simonsen Construction Company, Inc., Houston, Texas; Danny Marsh, Estimator, Simonsen Construction Company, Inc., Houston, Texas; David W. Fowler, Professor of Civil Engineering, University of Texas/Austin, Austin, Texas

The Effect of Moisture on the Physical and Durability Properties of MMA Polymer Concrete
Jack J. Fontana, Research Chemist, Brookhaven National Laboratory, Upton, New York; Walter Reams, Research Assistant, Brookhaven National Laboratory, Upton, New York

Behavior of Joints Using Reinforced Polymer Concrete
John R. Craig, Associate Professor, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, New Jersey; Ihas Kafrouni, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey; Jean Souda, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey; Sitarami Mahadev, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey; Harold Valentine, New Jersey Institute of Technology, Department of Civil Engineering, Newark, New Jersey

Please Note: Part II will be presented Thursday, September 29, 2:00 pm-5:00 pm in New York A.
DESIGN AND CONSTRUCTION OF SHRINKAGE COMPENSATING CONCRETE
Sponsored by ACI Committee 223

Session Chairman: Robert J. Gulyas
Director-National Accounts
Set Products, Inc.
Macedonia, Ohio
George C. Hoff
Mobil Research and Development Corporation
Division Offshore Engineering
Dallas, Texas

Specifications for and Properties of Shrinkage-Compensating Cement and Concrete

Structural Design Considerations of Shrinkage Compensating Cement in Concrete
Henry G. Russell, Director, Structural Development Department, Portland Cement Association, Skokie, Illinois

Sanitary Engineering Structures with Shrinkage Compensating Concrete: Design and Construction Aspects
W. Robert Little, Vice-President, Construction, The Landmarks Group, Atlanta, Georgia

Design and Construction Considerations with Post-Tensioned Concrete Structures Using ASTM-C-845 Cement
Ned H. Burns, Professor, Civil Engineering, University of Texas at Austin, Austin, Texas

Design Considerations and Construction Aspects of Grade Slabs Using Shrinkage Compensating Cement
Robert J. Gulyas, Director, National Accounts, Set Products, Inc., Macedonia, Ohio

Audience Discussion
George C. Hoff, Mobil Research & Development Corporation, Division Offshore Engineering, Dallas, Texas

"Design and Construction of Shrinkage Compensating Concrete" $12.00
This material may be purchased at the registration desk.
POLYMERS IN CONCRETE (PART II)
Sponsored by ACI Committee 548

Session Chairman: James T. Dikeou
Quazite Corporation
Houston, Texas

Moderator
Glen W. DePuy
Bureau of Reclamation
Denver, Colorado

Polymer Impregnation and Polymer Concrete Repairs at Grand Coulee Dam W. Glenn Smoak, Bureau of Reclamation, Denver, Colorado

Development of Superhigh Strength Concrete Made with Silica Fume Addition and Polymer Impregnation Katsunori Demura, Instructor, Nihon University, Fukushima, Japan; Yoshihiro Ohama, Professor, Nihon University, Fukushima, Japan; Roji Muranishi, Graduate Student, Nihon University, Fukushima, Japan

Tensile-Splitting Stress Distribution of Partially Polymer-Impregnated Concrete Cylinders Makoto Kawakami, Associate Professor, Akita University, Akita-shi, Japan; Hiroshi Tokuda, Professor, Akita University, Akita-shi, Japan; Kanjiro Ishizaki, Senior Research Chemist, Chichibu Cement Company, Ltd., Kumagaya-shi, Japan; Makoto Kagaya, Research Associate, Akita University, Akita-shi, Japan

Commercial Applications and Property Requirements for Epoxies in Construction Peter Mendis, Technical Director, Vice-President, Dural International Corporation, Deer Park, New York

Epoxy Modified Shotcrete Harald Schorn, Professor, Bochum University, Bochum, West Germany

Shear Transfer Behavior in Concrete and Polymer Modified Concrete Two Layer Systems Edward G. Nawy, Professor/Chairman, Rutgers University, Department Civil/Environmental Engineering, Piscataway, New Jersey
THURSDAY, SEPTEMBER 29, 1983
2:00 pm-5:00 pm
Ballroom: Chicago C

CONTROLLED LOW-STRENGTH MATERIALS
Sponsored by TAC Ad Hoc Committee

Session Chairman: William E. Brewer
- Bowling Green State University
  Bowling Green, Ohio

Laboratory Testing Program for Development of Controlled
Low-Strength Materials
Richard M. Majko, Technical Manager, American Fly Ash Company,
Des Plaines, Illinois

Repair of Outfall Structure, Lambton Thermal Generating Station
Sarnia, Ontario, Canada
Nick P. Bada, Engineer, Ontario Hydro, Port Credit, Ontario, Canada

Case History—CLSM Parking Pavement
Gary Ferguson, Bowser-Morner Testing Laboratory, Inc., Toledo,
Ohio

Testing and Evaluation of Pozzolanic Base Materials
for Highway Construction
Gary W. Sharpe, Principal Research Engineer, University of Ken-
tucky, Lexington, Kentucky; Larry E. Epley, Assistant Director for
Division of Materials, Kentucky Department of Highways, Frankfort,
Kentucky; David L. Allen, Chief Research Engineer, Transportation
Research Program, University of Kentucky, Lexington, Kentucky;
Herbert F. Southgate, Chief Research Engineer, Transportation
Research Program, University of Kentucky, Lexington, Kentucky;
Robert C. Deen, Director, Transportation Research Program, Univer-
sity of Kentucky, Lexington, Kentucky

Case History—Metal Culvert Pipe Construction
George Murnen, Civil Engineering Department, University of Toledo,
Toledo, Ohio

Structural Aspects of CLSM
Donald Milks, Professor and Chairman of Civil Engineering, Ohio
Northern University, Ada, Ohio

Corrosion Investigation Using CLSM
Raymond Huber, Bowling Green State University, Bowling Green,
Ohio
TECHNICAL SESSION

THURSDAY, SEPTEMBER 29, 1983
2:00 pm-5:00 pm
Ballroom: Chicago B

INNOVATIVE MATERIALS AND TECHNIQUES
IN CEMENT GROUTING (PART II)
Sponsored by ACI Committee 552

Session Chairman: Joseph P. Welsh
Vice President
Hayward/Baker Company
Odenton, Maryland

Expansive Properties of Cementitious Grouts
Della M. Roy, Professor of Materials Science, Pennsylvania State University, University Park, Pennsylvania; M. Perez, Pennsylvania State University, University Park, Pennsylvania; B. E. Sheetz, Pennsylvania State University, University Park, Pennsylvania; P. H. Licastro, Pennsylvania State University, University Park, Pennsylvania

Low Slump Compactile Tail Shield Grouting and Soft Ground, Shield Driven Tunnels
John G. Ruggiero, Administrative Engineer, New York City Department of Environmental Protection, New York, New York

Grouting of Contraction Joints Pertaining to the Agua Vermelha Dam
Presenter: Paulo Monteiro, Civil Engineer, University of California, Berkeley, California; Authors: Nadia S. Taconelli Paterno, Civil Engineer, Themag Engenharia Ltda, Sao Paulo, Brazil; João Francisco A. da Silveira, Civil Engineer, Promon Engenharia Ltda, Sao Paulo, Brazil; Selmo Chapira Kuperman, Chief, Division of Rand D on Concrete Technology, Themag Engenharia Ltda, Sao Paulo, Brazil; Rui C. de Carvalho, Civil Engineer, Companhia Energetica de Sao Paulo-CESP, Sao Paulo, Brazil

Influence of Bentonite Content on the Pumpability of Compaction Grouts
Roy H. Borden, Assistant Professor, North Carolina State University, Civil Engineering Department, Raleigh, North Carolina; Daniel M. Groome, Engineer, Soil & Material Engineers, Spartanburg, South Carolina

Pressure Grouting to Control Ground Water in Fractured Granite Rock, Helms Pumped Storage Project
David W. Moller, Pacific Gas & Electric Company, San Francisco, California; Henry Minch, Berlogar, Long and Associates, Pleasanton, California; Joseph P. Welsh, Vice President, Hayward/Baker Company, Odenton, Maryland; Robert M. Rubright, Hayward/Baker Company, Odenton, Maryland

Cold Weather Cement Grouting and Post Tensioning, Hauser Lake Dam, Montana
Peter Yen, Senior Geologist, Bechtel Civil and Minerals, Inc., San Francisco, California
GEORGE WINTER SYMPOSIUM: CONCRETE MATERIALS AND STRUCTURES
Sponsored by ACI Technical Activities Committee

Symposium Chairman: Gajanan M. Sabnis
President
FKC Engineering
Silver Spring, Maryland and
Professor of Civil Engineering
Howard University
Washington, D.C.

Co-Chairman: Bernard L. Meyers
Project Manager
Bechtel Power Corporation
Gaithersburg, Maryland

Opening Remarks
Bernard L. Meyers, Project Manager, Bechtel Power Corporation, Gaithersburg, Maryland

Concrete: As Material—Recent Developments
Floyd O. Slate, Professor, Cornell University, Ithaca, New York

Microcracking in Concrete
Thomas T. C. Hsu, Chairman, Department of Civil Engineering, University of Houston, Houston, Texas

Inelastic Behavior of Concrete
Arthur H. Nilson, Professor of Structural Engineering, Cornell University, Ithaca, New York

Behavior of Concrete Under Repeated Loads
S. P. Shah, Professor of Civil Engineering, Northwestern University, Evanston, Illinois

Concrete: Codes and Standards
Edward Cohen, Managing Partner, Ammann & Whitney, New York, New York

Structural Safety of Reinforced Concrete
Robert G. Sexsmith, Principal, Buckland and Taylor, Ltd., North Vancouver, British Columbia, Canada

Evolution of Instruction in Concrete Structures
Richard N. White, Professor, Cornell University, Ithaca, New York

Models of Concrete Structures
M. Saeed Mirza, Professor, McGill University, Montreal, Quebec, Canada; Gajanan M. Sabnis, President, FKC Engineering, Silver Spring, Maryland, and Professor of Civil Engineering, Howard University, Washington, D.C.

Investigation of Distress in Concrete Structures
Boris Bresler, Principal, Wiss, Janney, Elstner Associates, Inc., Emeryville, California
FORUM: INSPECTION OF CONCRETE—HOW GOOD IS IT?
Sponsored by ACI Committee 123 and Committee 311

Session Chairman: Robert L. Henry
Consultant and Branch Manager
Wiss, Janney, Elstner Associates, Inc.
Dallas, Texas

Panelists:
Art Sukenik
Manager
Western Zone Design & Construction Division
Equitable Life Assurance Society of U.S.
Dallas, Texas

Terry Dunn
Executive Vice-President
J. E. Dunn Construction Company
Kansas City, Missouri

Joe Artuso
President
Construction Engineering Consultants, Inc.
Loughlinton, Pennsylvania

The object of this forum is to bring together owners, engineers, architects, contractors, and laboratory personnel to consider the current practices with regard to inspection of concrete.

Is there too much? Is it any good? Are we doing it correctly? Who should be paying for inspection, the owner or the contractor? Can the contractor inspect his own work and materials? Should the engineering consultant provide inspection? Should there be more inspection? Are specifications clearly defining what inspection and tests should be performed? Come and participate in the discussion with these panelists and share in their knowledge.
FRIDAY, SEPTEMBER 30, 1983
9:00 am - 12:00 pm
Ballroom: Chicago B

CONCRETE RAILROAD TIES
Sponsored by ACI Committee 545 and Committee 10 (AREA)

Session Chairman: William J. Venuti
Professor
Department of Civil Engineering
San Jose State University
San Jose, California

Prestressed Concrete Railroad Ties—The PCI Slide Lecture
John G. White, President, Genstar Costain Tie Company, Ltd.,
Calgary, Alberta, Canada

Concrete Ties for Transit Systems
Amir N. Hanna, Principal Engineer, Track Structures, Construction
Technology Laboratories, Skokie, Illinois

Prestressed Concrete Ties on Indian Railways
Presenter: William J. Venuti, Professor, Department of Civil Engineering,
San Jose State University, San Jose, California. Authors: A.G. Madhava Rao, Assistant Director, Structural Engineering Research
Centre, Madras, India; V.S. Parameswaran, Assistant Director, Structural Engineering Research Centre, Madras, India; D.S. Ramachandra Murthy, Scientist, Structural Engineering Research
Centre, Madras, India

Design and Production of Prestressed Concrete Ties for Amtrak's
Northeast Corridor Improvement Program
Philip J. McQueen, Consulting Engineer, Ignacio, California

Installation of Concrete Ties on Amtrak's Northeast Corridor
R.D. Johnson, Regional Engineer-East/Project Manager, Northeast
Corridor Improvement Project, Amtrak, Philadelphia, Pennsylvania

Quality Control in the Manufacture of Prestressed Concrete Rail Ties
Derek Firth, Regional General Manager, Genstar Costain Tie Company, Ltd., Edmonton, Alberta, Canada
CONCRETE SANITARY ENGINEERING
STRUCTURES—PROBLEMS AND SOLUTIONS
Sponsored by ACI Committee 350

Session Chairman: Jon B. Ardahl
Black & Veatch
Kansas City, Missouri

Introduction
Jon B. Ardahl, Black & Veatch, Kansas City, Missouri

Types of Problems
Dov Kaminetzky, President, Feld, Kaminetzky & Cohen, New York,
New York

Collapse of Filter Influent Channel and Structural Deficiencies of Lime
Reaction Tanks
Leonidas T. Delyannis, L.T. Delyannis and Associates, Arlington,
Virginia

Failure of Tunnel Culvert and Deficiencies in Oxygenation Tanks
Predrag L. Popovic, Consultant, Wiss, Janney, Elstner and

Experiences with Two Reinforced Concrete Aeration Basins
A. H. Karabinis, Principal Engineering Specialist, Monsanto Com-
pany, St. Louis, Missouri; T.J. Fowler, Distinguished Fellow, Mon-
santo Company, St. Louis, Missouri

Experiences with Shrinkage Compensating Concrete in Sanitary
Engineering Structures
Edward K. Rice, CTS Cement Manufacturing Company, Sherman
Oaks, California

Cracking of Concrete Lining in Soft Ground Tunnels
Glenn Noble, Consulting Engineer and Construction Consultant,
Pontiac, Michigan
FRIDAY, SEPTEMBER 30, 1983
9:00 am - 12:00 pm
Ballroom: Chicago C

CONSOLIDATION OF CONCRETE
Sponsored by ACI Committee 309

Session Chairman: Donald L. Schlegel
Manager, Research and Development
Price Brothers Company
Dayton, Ohio

Video Tape Presentation: Consolidation of Concrete by Vibration
Roger E. Wilson, Manager, Construction and Technology Education,
Portland Cement Association, Skokie, Illinois

Practical Approaches to Concrete Consolidation
James M. Shilstone, President, Shilstone and Associates, Inc.,
Dallas, Texas

Types of Concrete Consolidation Equipment
Ken Weden, Chief Engineer, Wyco Tool Company, Chicago, Illinois

Field Studies on Consolidation of Concrete Pavement
Thomas J. Reading, Consulting Engineer, Omaha, Nebraska

Vibration Effects and Techniques in Relation to Various Plastic Form Surfaces
Jerome Ford, Sales Manager, Symons Corporation, Des Plaines, Illinois

A Device for Recording the Consolidation Process of Fresh Concrete During Vibration

How Concrete Can Be Consolidated Around Congested Reinforcement
Hrista Stamenkovic, Building Engineer, City of Riverside, Riverside, California
OPEN PAPER SESSION (PART II)
Sponsored by ACI Technical Activities Committee

Session Chairman:  I. Leon Glassgold
Masonry Resurfacing Construction
Company, Inc.
Baltimore, Maryland

Torsional Analysis of Multi-Storied Structures—
A Simplified Approach
David G. Kittridge, Senior Engineer, Boyle Engineering Corporation,
Orlando, Florida

Suggestions for Cost Effectiveness
on Concrete Bridge Piers and Abutments
Marius B. Wechsler, Senior Engineer, Bechtel Power Corporation,
Norwalk, California

Repair and Maintenance of Concrete Structures
Subject to Water Erosion
Presenter: Paulo Monteiro, Civil Engineer, University of California,
Berkeley, California; Authors: Vladimir A. Paulon, Head of Concrete
Technology Department, Promon Engenharia Ltda, Sao Paulo, Brazil;
Miguel N. R. Saad, Head of Concrete Laboratory at Ilha Solteira Dam,
CESP-CIA, Energetica De Sao Paulo, Sao Paulo, Brazil; Walton Pacelli
De Andrade, Head of Concrete Laboratory at Itermiara Dam, Furnas
Centrais Eletricas S.A., Itermiara, Brazil

Concrete Cable-Stayed Bridges
Man-Chung Tang, President, DRC Consultants, Inc. New York,
New York

Design and Full Scale Testing of Elastomeric Bridge Bearings
For Trestle and Jetty Trestle of Super Tanker Offshore Terminal
Syed I. Husain, Engineering Manager, Ill, Marine Engineering Di-
vision, Brown & Root, Inc., Houston, Texas

Durability of Glass Fiber Reinforced Concrete
James L. Daniel, Structural Engineer, Structural Experimental Sec-
tion, Portland Cement Association, Skokie, Illinois; Donald M.
Schultz, Manager, Structural Experimental Section, Portland Cement
Association, Skokie, Illinois
1984 Annual Convention
March 4-9
Hyatt Regency Hotel
Phoenix, Arizona

1984 Fall Convention
October 28-November 2
Grand Hyatt Hotel
New York, New York

ACI ACCESSORIES

At the ACI convention registration desk you may place an order or purchase the following accessories:

ACI Fellow Pin/Tie Tac $8.35
Our ACI emblem and Fellow designation in 10k gold

ACI Member Pin $8.35
Rhodium, enameled in ACI blue

Necktie $6.00
Dark blue, embroidered with ACI logo

Golf Hat $5.95
Dark blue with ACI logo

Money Clip $4.50
Antique silver tone, in gift box

ACI Key Tags $3.95
Two styles — available in all-chain or ring mesh, both have pewter finish
SPOUSE PROGRAM

SUNDAY, September 25, 1983
6:30 pm - 8:00 pm  Wine & Cheese Party
Sponsored by Kansas/Missouri ACI Chapters

MONDAY, September 26, 1983
8:30 am - 10:00 am  Coffee & Rolls (Hospitality Room)
9:00 am - 3:00 pm  Hospitality Room - Hostess available to answer questions
10:00 am - 11:00 am  Orientation Program
"What to do and see in Kansas City"
3:00 pm - 5:00 pm  Spouse Wine & Cheese Open House:
Hosted by ACI President & Mrs. Norman L. Scott

TUESDAY, September 27, 1983
9:00 am - 10:30 am  Spouse Breakfast - Sponsored by ACI (complimentary)
9:00 am - 3:00 pm  Hospitality Room - Hostess available to answer questions
1:00 pm - 4:00 pm  City Tour with Miniature Museum
(cost $13.00)
Join us for an interesting and historic tour of the city and Miniature Museum. A good opportunity for you to become acquainted with Kansas City, the "City of Fountains," and meet friends along the way.
2:00 pm - 3:30 pm  Hallmark Cards Headquarters Tour (Free)
Listen to the story and tour the Hallmark Cards Headquarters. Watch greeting cards being created from conception to the final product.
(This tour will be offered on a periodic basis.)

WEDNESDAY, September 28, 1983
8:30 am - 10:00 am  Coffee & Rolls (Hospitality Room)
9:00 am - 3:00 pm  Hospitality Room - Hostess available to answer questions
9:00 am - 12:00 pm  General Session (all are invited)
Raymond E. Davis Lecture
Presented by Gunnar M. Idorn
10:00 am - 1:00 pm  Nelson Art Gallery (cost $12.75)
You will delight in touring Kansas City's world-renowned Nelson Gallery of Art. The Nelson Gallery is the largest museum from Chicago to Tokyo; it is ranked among the nation's top ten fine arts institutions; and one of the top three in Oriental collections. The Gallery's extensive collection includes the works of El Greco, Rembrandt, Hals, Tintoretto, Pissarro, Seurat, Cezanne, Van Gogh, Utrillo, Picasso, Goya, Bellini, Caravaggio, Titian, Rubens, Bingham, Benton, etc.
6:30 pm - 8:00 pm  Concrete Mixer (all invited)
THURSDAY, September 29, 1983

8:30 am-10:00 am Coffee & Rolls (Hospitality Room)
9:00 am- 3:00 pm Hospitality Room - Hostess available to answer questions
9:00 am- 2:00 pm Truman Museum/Library and Luncheon (cost $21.50)
The Harry S. Truman Library is a combination research center and museum housing the unique working papers accumulated by President Truman during his public career spanning the 50-year period from 1922-1972. Among the museum's outstanding exhibits are hundreds of beautiful and priceless gifts from foreign heads of state and U.S. citizens. President Truman and his wife Bess are buried in the Library's courtyard and you will be able to visit the gravesite.

Luncheon will be served at Stephenson's Apple Farm Restaurant where you will enjoy sipping cider drawn from a wooden barrel; browsing through the many primitive antique-filled rooms; and shopping at the oldtime country store. Stephenson's has a national reputation for the fine food and early-day atmosphere.

6:30 pm Kansas/Missouri ACI Chapters' Dinner Meeting
(all are welcome to attend)
Please purchase tickets at the ACI registration desk in Kansas City.

FRIDAY, September 30, 1983

8:30 am-10:00 am Coffee & Rolls and time to say "Good-Bye" to our friends.
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