New Innovations in Chemical Admixtures
Sponsored by ACI 212 Chemical Admixtures
Co-Moderated by:
Kari L. Yuers, FACI
Kryton International Inc.
Vancouver, BC
Chair, ACI 212 Chemical Admixtures
Terry Harris Sr, FACI
GCP Applied Technologies
Cambridge, MA
Secretary, ACI 212 Chemical Admixtures
EXPLORATION IS THE ENGINE THAT DRIVES INNOVATION. INNOVATION DRIVES ECONOMIC GROWTH. SO LET'S ALL GO EXPLORING.
-EDITH WIDDER
Today’s presentations chosen from Call for Papers

- A Chemical Admixture with Carbon Nanotubes, Yuan Gao, Northwestern University; David J. Corr, Northwestern University; and Maria S. Konsta-Gdoutos, Northwestern University, Surendra Shaw, Northwestern University

- The Use of Microspheres as an Alternative to Entrained Air Bubbles for Providing Resistance to Freeze-Thaw and Salt Scaling Michael D. A. Thomas, University of New Brunswick; and Edward G. Moffatt, University of New Brunswick

- New Generation of High-Range Water Reducers, Suzanne Lianopoulos, BASF; and Thomas M. Vickers, BASF

- A New Generation of Micro-Particulate-Based Admixtures for Concrete, Christopher John Eagon, BASF; and Paul Horst Seiler, BASF Co
Additional Innovations in Admixtures papers

Interesting topics such as:

- A new type of shrinkage-reducing/compensating admixture for cementitious mixtures
- Performance and corrosion resistance of mortars with ago-waste derived green admixtures
- Retarding admixtures for calcium sulfoaluminate cement
- Control of ASR through use of Iron-Based Supplementary Cementitious Materials
Learning resources available on Chemical Admixtures

Key ACI Documents

- ACI 212.3R-16 Report on Chemical Admixtures
- ACI E701 E4-12 Chemical Admixtures
ACI University provides CEU’s on Chemical Admixtures

• Corrosion Inhibiting Admixtures
• Viscosity and Rheology Modifying Admixtures
• Shrinkage-Reducing, Shrinkage-Compensating, and Permeability-Reducing Admixtures

New Webinars:
• Viscosity and Rheology Modifying Admixtures
ACI 212.3R-16, Report on Chemical Admixtures for Concrete

ACI 212 Committee

Bradley K. Violette*, Chair
James M. Aldred
Neal S. Berke*
Casimir J. Bogacki
Marshall L. Brown
Lewis J. Cook
Timothy Durning*
Roy Eller
Hamid Farzam
Dale Fisher*
Timothy S. Folks
Barney Heller*
Darmanwan Ludirja*
Ross S. Martin
Pierre-Claver Nkinamubanzi

Kari L. Yuers*, Secretary

William S. Phelan*
Michael F. Pistilli
Lawrence R. Roberts*
Ketan R. Sompura*
David B. Stokes*
Arthur T. Winters*

*Subcommittee members who prepared this report.

The committee would like to thank T. Harris, N. Treggar, and C. Talbot for their contributions to this report.
**ACI 212.3R-16, Report on Chemical Admixtures for Concrete**

End-user information chart, Section 3.8

Helps users locate relevant information

- Constructability Attributes Required
- Special Construction Conditions
- Special Engineering Properties/Applications
- Special Environmental Conditions in Service
- Special Aesthetic Considerations
- Special Structural Considerations
- Other

<table>
<thead>
<tr>
<th>Table 3.8—ACI 212.3R chapter reference guide to concrete requirements and exposures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concrete requirements exposures</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Constructability attributes</strong></td>
</tr>
<tr>
<td>Workability</td>
</tr>
<tr>
<td>Flowability</td>
</tr>
<tr>
<td>Finishability</td>
</tr>
<tr>
<td>Self-consolidating</td>
</tr>
<tr>
<td>Cohesive</td>
</tr>
<tr>
<td>Fast-setting</td>
</tr>
<tr>
<td>Slow-setting</td>
</tr>
<tr>
<td>High early strength</td>
</tr>
<tr>
<td>Bleeding control</td>
</tr>
<tr>
<td><strong>Special construction conditions</strong></td>
</tr>
<tr>
<td>Hot weather</td>
</tr>
<tr>
<td>Cold weather</td>
</tr>
<tr>
<td>Sub-freezing weather</td>
</tr>
<tr>
<td>Underwater</td>
</tr>
<tr>
<td>Pumped</td>
</tr>
<tr>
<td>Long haul/long placement</td>
</tr>
<tr>
<td>Long pump distance</td>
</tr>
<tr>
<td>Fast-track construction</td>
</tr>
<tr>
<td>Congested reinforcing bar</td>
</tr>
<tr>
<td>Difficult access to consolidate</td>
</tr>
<tr>
<td>Extruded concrete</td>
</tr>
</tbody>
</table>

ACI 212.3R-16, Report on Chemical Admixtures for Concrete

American Concrete Institute

Always advancing
Potential new chapters:

- Chapter - Admixtures for 3D Printing
- Chapter - Admixtures for Durability
- Chapter - Admixtures for Shotcrete
- Chapter - Admixtures for Underwater systems
- Chapter - Admixtures for Grout
- Chapter - Admixtures for Drycast
- Chapter – Admixtures for Hardening and Erosion Control
2018 CT “Admixture” and “Chemical Admixture” Definition:

- Chemical Admixture - a liquid, or dispersible powder, used as an ingredient in a cementitious mixture to improve its economy and/or properties in the plastic and/or hardened state.
If you want to know what’s new in the concrete industry

– buy your copy of ACI 212.3R-16 today!
Thank you and enjoy our ACI 212 Session

New Innovations in Chemical Admixtures