American Concrete Institute

New Innovations in Chemical Admixtures

Sponsored by ACI 212 Chemical Admixtures

Co-Moderated by:

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Introduction

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

Learning and Educational materials

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

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ACI 212.3R-16

Report on Chemical Admixtures for Concrete

Reported by ACI Committee 212

American Concrete Institute
Always advancing

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 3.8—ACI 212.3R chapter reference guide to concrete requirements and exposures

Concrete requirements exposures		Chapter number and title																
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
		Air-entraining admixtures	Normal, mid- and high-range water reducers	Accelerating admixtures	Set-retarding admixtures	Extend set-control admixtures	Workability-retaining admixtures	Viscosity- and rheology-modifying admixtures	Shrinkage-reducing admixtures	Corrosion-inhibiting admixtures	Lithium admixtures to reduce ASR	Permeability-reducing admixtures	Miscellaneous admixtures	Admixtures for flowing concrete	Admixtures for self-consolidating concrete	Admixtures for very cold weather concrete	Admixtures for very high-early-strength concrete	Admixtures for pervious concrete
Constructibility attributes required	Workability	□	■											■	■			
	Flowability		■					□						■	■			
	Finishability		■															
	Self-consolidating		□					■							■			
	Cohesive	□						■					□					
	Fast-setting		□	■			□									□	□	
	Slow-setting				■	■												
	High early strength		□	□													■	
	Bleeding control	□	□					■										
Special construction conditions	Hot weather				■													
	Cold weather			■												□		
	Sub-freezing weather	□	□	□												■		
	Underwater							■					□					
	Pumped		■					■										
	Long haul/long placement		□		□	■	□											
	Long pump distance		□		□	■	□											
	Fast-track construction		□	□													■	
	Congested reinforcing bar													□	■			
	Difficult access to consolidate					□								□	■			
	Extruded concrete					□		■										

New content for 212 Chemical Admixtures Doc

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***

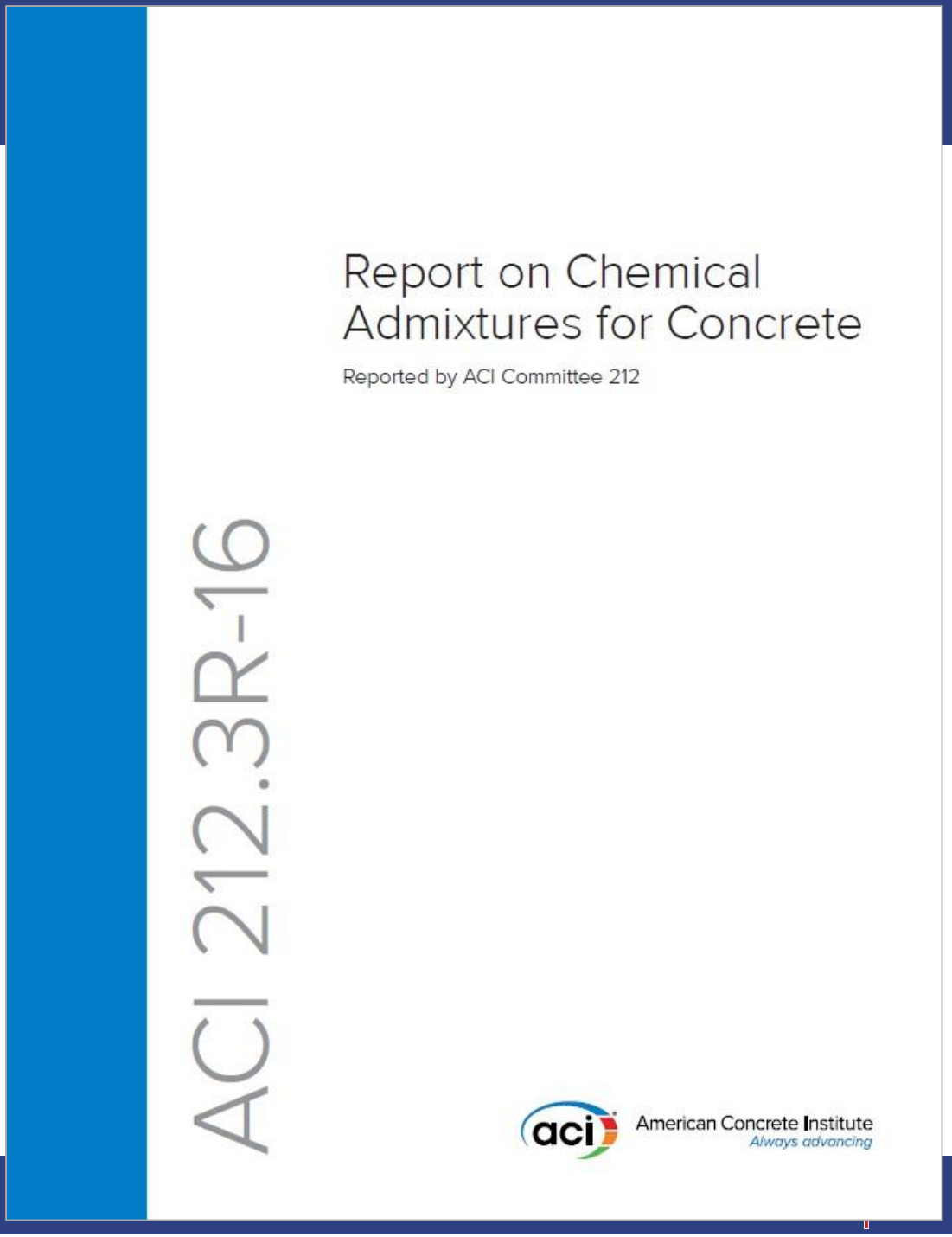
ACI 212 Chemical Admixture New Definition

- 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

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