

**AGENDA**  
**ACI Committee 130 – Sustainability of Concrete**

**ACI Fall 2009 Convention, Chicago, Illinois**  
**Part 1: Monday, October 25, 2010, 2-5pm, W-Allegheny 2**  
**Part 2: Tuesday, October 26, 2010, 11-1pm, W-Allegheny 2**

**Monday Agenda**

- 1) Welcome and Introductions
- 2) Moment of reflection for founding 130 Chair Dick Stehly
- 3) Approval of Spring 2010 minutes
- 4) Update on “Guide to Sustainable Concrete” (details during Tuesday meeting, see Exhibit A)
  - a) TAC approval to proceed
  - b) Minor title change
  - c) Chapters 3, 4, and 5 (from 130B) currently balloting in main committee (ends 10/27, Wednesday)
- 5) CAM Sustainability Publications
  - a) *The Sustainable Concrete Guide – Strategies and Examples*
  - b) *The Sustainable Concrete Guide – Applications*
- 6) Special Publications
  - a) SP-269CD, Concrete: The Sustainable Material Choice (\$34 member price)
  - b) Upcoming
    - i) Green Concrete in the Steel City
    - ii) Sustainability through Concrete
    - iii) The Role of Concrete in Sustainability
- 7) Convention Sessions
  - a) Concrete Sustainability Forum (Buffenbarger, Sakai)
  - b) Sessions at this conference (Rowland)
    - i) Sustainable Design with Concrete, Parts 1 and 2
    - ii) Green Binders Technology
    - iii) Sustainability of Concrete Pavement
    - iv) Design of Sustainable Concrete Bridges
  - c) Upcoming Sessions (Rowland)
    - i) Applications and Modeling Thermal Mass for Sustainable Buildings
    - ii) Green Building and the ACI
    - iii) Performance Criteria for Concrete, Parts 1 and 2
  - d) Topics for future conventions
    - i) Spring 2011, Tampa, Florida (ACI & the Concrete Industry's Approach to Green Building)
    - ii) Fall 2011, Cincinnati, Ohio (Bridging Theory and Practice)
    - iii) Spring 2012, Dallas, Texas (The Art of Concrete)
- 8) Student Competitions
- 9) Outreach to ACI committees
- 10) Other Old Business

11) New Business

12) Updates from committee members

- a) Thomas Adams (Fly Ash classification update)
- b) John Roberts
- c) Others taken from the floor as time allows

13) Adjournment of Monday meeting

## **Tuesday Agenda**

1) Welcome and Introductions

2) Brief review of Monday meeting (Schokker)

3) Subcommittee Updates (focused on “Guide to Sustainable Concrete” progress and needs)

- a) 130A: Materials (Chairs: Doug Hooton & Tom VanDam)
- b) 130B: Production/Transportation/Construction (Chairs: Kevin MacDonald & Matt Offenber)
- c) 130C: Structures in Service (Chair: Tracy Marcotte)
- d) 130D: Rating Systems/Sustainability Tools (Martha Van Greem, Jeff Volz, & Arezki Tagnit-Hamou)
- e) 130E: Design/Specifications/Codes/Regulations (Chairs: Mark Chrzanowski & Larry Church)
- f) 130F: Social Issues (Chair: David Darwin, Vice Chair: Kelsey Edwardsen)
- g) 130G: Education/Certification (Chairs: Larry Rowland & Khaled Awad)

4) Completion of any remaining business from the Monday meeting

5) New Business

6) Adjournment

# **GUIDE TO CONCRETE SUSTAINABILITY**

Reported by ACI Committee 130

*This report gives general information about concrete sustainability.....*

**Keywords:** sustainability; green; environmental; ...

## **CONTENTS**

### **Chapter 1—Introduction**

- 1.1—General
- 1.2—Background
- 1.2—Scope
- 1.4—Limitations
- 1.5—Background: Sustainability
- 1.6—Sustainable attributes for concrete

### **Chapter 2—Materials**

- 2.1—Cementitious materials
- 2.3—Aggregates and fillers
- 2.4—Admixtures and additives
- 2.5—Water
- 2.6—Reinforcement

### **Chapter 3—Proportioning**

- 3.1—Mixture proportion considerations
- 3.2—Overdesign implications

### **Chapter 4—Production and Transport**

- 4.1—Environmental best practices for production
- 4.2—Transportation
- 4.3—On site
- 4.4—Innovative green products
- 4.5—Industry resources and programs

### **Chapter 5—Construction**

- 5.1—Formwork
- 5.2—Placement and post-placement
- 5.3—Health and Safety

### **Chapter 6—Structures in Service**

- 6.1—Durability
- 6.2—Asset management
- 6.3—Historic preservation and cultural significance

## 6.4—Environmental impacts

### **Chapter 7—Rating Systems**

#### 7.1—Overview

#### 7.2—Recommended criteria for evaluating sustainability of concrete

#### 7.3—LEED (Leadership in Energy and Environmental Design)

#### 7.4—Green Globes

#### 7.5—BREEAM (Building Research Environmental Assessment Method)

#### 7.6—CASBEE (Comprehensive Assessment System for Built Environmental Efficiency (CASBEE))

#### 7.7—Green Roads

#### 7.8—GreenLITES (Leadership in Transportation and Environmental Sustainability)

#### 7.9—U.S. Cities and LEED

#### 7.10—CHPs (Collaborative for High Performance Schools)

### **Chapter 8—Sustainability Tools**

#### 8.1—Overview

#### 8.2—Recommended sustainability tools for evaluating concrete

#### 8.3—Athena

#### 8.4—BEES

#### 8.5—Concrete center thermal mass calculator

#### 8.6—EcoConcrete

#### 8.7—EcoQuantum

#### 8.8—Envest

#### 8.9—WRI

#### 8.10—Black boxes

#### 8.11—Comparisons

#### 8.12—Applications

### **Chapter 9—Design**

#### 9.1—What is sustainable design?

#### 9.2—Sustainable design starts at the conceptual level

#### 9.3—PCA high performance concrete

#### 9.4—Durability

#### 9.5—Service life

#### 9.6—Improvements needed for adoption

### **Chapter 10—Specifications**

#### 10.1—Elements of a sustainable specification

#### 10.2—Sample sustainable specifications

#### 10.3—Specifics for ACI 301

### **Chapter 11—Codes**

#### 11.1—Sustainable practices by understanding code requirements

#### 11.2—Green building codes

#### 11.3—Durability codes

#### 11.4—Specifics for ACI 318

### **Chapter 12—Regulations**

#### 12.1—Global

#### 12.2—Federal

### **Chapter 13—Social impacts**

- 13.1—Needs
- 13.2—Stakeholders
- 13.3—Health and safety
- 13.4—Aesthetics
- 13.5—Societal connectivity
- 13.6—Residential

**Chapter 14—Environmental impacts**

- 14.1—Local and global climate
- 14.2—Water
- 14.3—Durability and longevity
- 14.4—Energy

**Chapter 15—Economic impacts**

- 15.1—Overall metrics
- 15.2—Cost of maintenance
- 15.3—Economic assessment
- 15.4—Balance of trade

**Chapter 16—Summary and Conclusions**

**Chapter 17—References**

