

## Agenda

ACI Committee 240 Natural Pozzolans

Denver, CO

Monday, November 9, 2015

Director's Row H

10:00 AM – 1:00 PM

1. Welcome and introduction of members and guest.
  - a. Membership report: 34 Voting; 5 Associate
2. Approval of Minutes – Kansas City
3. Natural Pozzolan Session, Denver Fall 2015, remarks from Prasad R.
4. Document Title Revision (240.XX)
5. Presentation: “Testing Natural Pozzolans – How Natural are your Pozzolans”, Boyd Clark, CTL Group.
6. Natural Pozzolan – Definitions: See Exhibit 1
7. Dealing with Other Pozzolanic Materials - Possible Options
  - a. Modify committee mission
  - b. Modify committee name
    - i. Natural and Processed Pozzolans (previous 232-0A name @ Phoenix)
    - ii. Other
  - c. Re-define “Natural Pozzolans”
  - d. Other
  - e. Assign Task Group
8. Development of Committee protocol for inclusion of new materials/information: See Exhibit 2
9. New Business
10. Schedule for Milwaukee meeting
11. Adjourn

**Exhibit 1: Various Definitions of Natural Pozzolans  
For Discussion ACI Committee 240 Natural Pozzolan meeting Denver Fall 2015**

**ACI CT-13**

**natural pozzolan** — a raw or calcined natural material that has pozzolanic properties.

**pozzolan** — a siliceous or silico-aluminous material that will, in finely divided form and in the presence of moisture, chemically react with calcium hydroxide at ordinary temperatures to form compounds having cementitious properties (there are both natural and artificial pozzolans).

**artificial pozzolan** — materials such as fly ash and silica fume. (See also **fly ash** and **silica fume**).

**supplementary cementitious material** — inorganic material such as fly ash, silica fume, metakaolin, or slag cement that reacts pozzolanically or hydraulically.

**cementitious** — having cementing properties.

**cementitious materials** — pozzolans and hydraulic cements. (See also **fly ash**, **silica fume**, and **slag cement**.)

**ASTM C 125-15a Terminology**

**pozzolan, natural, *n***—a raw or calcined naturally occurring material that behaves as a pozzolan. (2012) DISCUSSION—Examples of natural pozzolans include volcanic ash, tuff, pumicite, opaline chert, opaline shale, metakaolin, and diatomaceous earth.

**pozzolan, *n***—a siliceous or siliceous and aluminous material that in itself possesses little or no cementitious value but will, in finely divided form and in the presence of water, chemically react with calcium hydroxide at ordinary temperatures to form compounds possessing cementitious properties. (2012)

**cementitious material, supplementary, (SCM), *n***—an inorganic material that contributes to the properties of a cementitious mixture through hydraulic or pozzolanic activity, or both. (2012) DISCUSSION—Some examples of supplementary cementitious materials are fly ash, silica fume, slag cement, rice husk ash, and natural pozzolans. In practice, these materials are used in combination with portland cement.

**ASTM C 618 -15**

**4. Classification**

4.1 *Class N*—Raw or calcined natural pozzolans that comply with the applicable requirements for the class as given herein, such as some diatomaceous earths; opaline cherts and shales; tuffs and volcanic ashes or pumicites, calcined or uncalcined; and various materials requiring calcination to induce satisfactory properties, such as some clays and shales.

## **Designation: C1709 – 11 Standard Guide for Evaluation of Alternative Supplementary Cementitious Materials (ASCM) for Use in Concrete**

3.2.1 ***alternative supplementary cementitious materials(ASCM)***, *n*—inorganic materials that react pozzolanically or hydraulically, and beneficially contribute to the strength, durability, workability, or other characteristics of concrete, and does not meet Specifications C618, C989, and C1240.

3.2.2 ***supplementary cementitious materials (SCM)***, *n*—a slag cement or pozzolan that contributes to the properties of concrete or mortar through hydraulic or pozzolanic activity or both; and meets one of the following: Specification C618, C989, or C1240.

## EXHIBIT 2: Committee Protocol for Document Revisions

Proposed development of Protocol & Check list for Inclusion of New Material/Information in Document 240 (**Draft 1**, 10-26-15)

1. List areas of interest for inclusion of the new information
  - a. History
  - b. Use in construction projects
  - c. Use in concrete products
  
2. Is the material in the research/feasibility phase or commercially available?
  
3. Is the product/process adequately identified currently in Chapter 4-Descriptions?
  - a. If yes – no action required
  - b. If no – develop text to describe the material, product, or process:
    - i. Raw Material
    - ii. Processing
    - iii. Other
  
4. Identify published references related to the material
  
5. Assign Task Group to draft proposed text
  - a. Outline
  - b. Text