

PCI Plant Quality Talk

Quality Enhancement Committee



NPCA
National Precast Concrete Association



PCI
Precast/Prestressed
Concrete Institute

SERIES 1, ISSUE 6 – CEMENT BALLING IN CONCRETE MIXTURES

When batching concrete mixtures, sometimes some of the constituent materials do not get mixed in homogenously. Often this results in “cement balls”: dry material that forms clumps during batching. These balls will result in a weakened concrete product and should be removed from the concrete if spotted. It is imperative to address the issue immediately.

Potential cause: Improper batching

Actions:

- Ensure proper material discharge timing.
- Ensure proper sequencing of materials:
 - Cement should ribbon in with aggregate.
 - Avoid putting all the water in up front.
 - Do not add high-range water-reducing admixture before the cement is wetted out.
- Increase mixing time.

Potential cause: Mixer condition

Actions:

- Clean any buildup in the mixer and on the mixing blades.
- Ensure all materials are introduced into the mixer at an even rate, not all at once.

Potential cause: Fiber

Actions:

- Make sure the timing of the fiber addition and mixing of fibers is per the manufacturer’s recommendation.
- Consider placing the fibers on the aggregate belt for introduction to the mixer.
- Reduce rate of introduction.

Note: Please complete this form and return to the Quality Control Manager. All crew members should be observant and report to their foreman anything out of the ordinary on a project. *See something, say something.*

NOTES

ATTENDEE SIGNATURES

DATE
PRESENTER
