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ASCC and NRMCA Cooperate on Fresh Concrete Performance Expectations

In 2003, when the National Ready Mixed Concrete Association (NRMCA) launched their P2P initiative (Prescriptive to Performance) for concrete specifications, concrete contractors expressed concerns about how their concrete performance needs would be met. They agreed with the concept of specifying performance requirements so concrete producers could best use their expertise in choosing materials and proportions to meet engineers' desires for strength, durability, and volume stability in the hardened concrete. This freed producers from meeting specification requirements for properties such as slump, that at best has a tenuous relationship to desirable hardened concrete properties. It also freed them from minimum cement content requirements, restrictive aggregate grading limits, and other such prescriptive specification elements.

Concrete contractors agreed that they and the concrete producer were the best judges of slump needed to meet placement and consolidation needs. But they worried that other fresh concrete properties such as pumpability, setting time, and finishability, while important to the contractor, would not be addressed by specifications related primarily to hardened concrete properties.

In a combined effort by the NRMCA Research, Engineering, and Standards (RES) committee and ASCC representatives, over a period of several years they developed an approach that consists primarily of a non-contractual partnering agreement based on a checklist that has just been published. The checklist is a tool for both producers and contractors to express their expectations before an order is placed for the concrete.

"The Checklist for Concrete Producer-Concrete Contractor Fresh Concrete Performance Expectations" has separate sections on producer and contractor responsibilities. It covers fresh concrete requirements for all types of building elements such as foundations, walls, exterior and interior slabs-on-grade, suspended slabs, topping slabs and mass concrete.

As an example, one of the producer's responsibilities is to provide set time information at 50F, 70F and 90F to alert the contractor to various placing and finishing conditions in hot and cold weather. An example of one of the concrete contractors' responsibilities is to provide pumping information (shown below) so the producer can provide a pumpable mix for those circumstances.

☐ Concrete contractor or pumping subcontractor to indicate, as necessary:

- Pump type (boom or trailer) _____ .
- Line diameter _____ in., length _____ ft., (give horizontal and vertical dimensions)
- Length of rubber hose _____ ft.
- Number of 90 degree bends _____ .
- Pump capacity _____ cu yd/hr

The key representatives on this project were Colin Lobo of NRMCA, Kevin MacDonald of Beton Consulting Engineers, LLC and Ward Malisch and Bruce Suprenant with ASCC, along with review and input from both the NRMCA RES committee and ASCC Technical Committee. We hope that you use this new document in discussing your fresh concrete needs with the producer. Feedback is important so we can improve on this document. Contact Ward or Bruce or any member of the ASCC Technical Committee to provide us with your comments.