

Bidding Is Not Suppose To Be A Guessing Game: Part 2

The January 2013 Newsletter presented an ASCC Hotline call where the specification listed an integral concrete color additive in the product section but did not designate its use in any portion of the structure in the specification or drawings. Not surprisingly the contractor did not include the use of an integral color additive in his bid. And not surprisingly, the construction manager wanted the concrete contractor to pay for the inclusion of the integral color additive when the owner chose a location for its use; another example of making bidding a guessing game.

Specifiers are challenging concrete contractors again by not providing sufficient information to determine “what concrete goes where.” For instance, the strength and air content of concrete needed in specific structural members is basic information, and would seem to be an easy requirement to specify. But concrete contractors and their concrete suppliers are sometimes forced to guess what concrete goes where and hope that it matches both the engineer’s and owner’s expectations. When it is unclear in the specifications, engineers or owners often make their intent known during the concrete mix submittal. Of course, at that time, they are in a position to disallow claims for increased project costs resulting from a lack of clarity in the specifications.

An example of a specification that makes it difficult to determine what concrete goes where is shown here. The wording used by the specifier – “occasional moisture” and “exposed to deicing chemicals” is from ACI 318-14, “Building Code Requirements for Structural Concrete,” which requires the design professional to determine the project’s strength and durability requirements based on exposure categories and classes. The design professionals, with their knowledge and expertise, and in consultation with the owner, are to determine what the Code requires and then make that clear to the contractor in the specifications.

Structural Members	Compressive Strength, 28 day (psi)	Maximum Water/Cement Ratio
Not Exposed to Freezing		
• Interior concrete protected from moisture	3500	0.50
• Interior concrete exposed to occasional moisture	3500	0.45
• Interior concrete exposed to occasional moisture and de-icing chemicals	5000	0.40

ACI 318 makes it clear that the “drawings, details and specifications shall show”... the “specified compressive strength of concrete at stated ages or stages of construction for which each part of the structure is designed.” ACI 301 “Specifications for Structural Concrete” also makes it a responsibility of the specifier to inform the contractor with respect to strength and water-cement ratio by requiring in **4.2.2.8** *Strength and water-cementitious material ratio*: “The compressive strength and, when required, water-cementitious material ratio (*w/cm*) of the concrete for each portion of the Work, shall be as specified in Contract Documents.”

Restating the ACI Building Code requirements for concrete mix design in the specifications does not meet the requirements for telling the contractor “what concrete goes where.” The contractor needs to know the strength, water-cementitious materials ratio, air content, and any other requirements for interior or exterior slabs, columns, beams, footings, and other portions of the work.

Note: The ACI documents cited can be purchased at www.concrete.org