



Clark County Department of Building & Fire Prevention

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Division:	Building Division	Code Interpretation	BP-CI-002
Subject:	CONCRETE EXPOSED TO SULFATE – CONTAINING SOILS	Effective Date:	05/01/2007
Code:	IBC 1704.4 exception 2.3, 1904.3	Reviewed Date:	08/15/2012

A. CODE REQUIREMENT

The International Building Code requires, in Section 1904.3, that concrete exposed to sulfate-containing soils to comply with ACI 318 Section 4.3. ACI 318, Section 4.3 lists, among other requirements, the compressive strength (f'_c) requirement for the various sulfate exposure levels. These values start at 4000 psi for a moderate sulfate exposure and go up to 4500 psi for severe and very severe sulfate exposures.

B. INTERPRETATION

1. When concrete is specified to be of strengths as listed above, a question arises regarding special inspection requirements. The International Building Code special inspection requirements are based upon the concrete strength utilized in the structural design. Since the requirements in ACI 318 Section 4.3 are related to durability and not structural design, special inspections are, therefore, not required. The majority of structural plans reviewed and approved by the Clark County Building Department do not indicate the reason for specifying higher concrete strengths. This has resulted in some confusion for the field inspectors as to whether special inspections are required, especially where the structural notes still include, by mistake, a special inspection requirement item for concrete.

2. It is necessary that the structural plans clearly address this issue in the structural notes. A specific statement needs to be provided in the section containing the specifications for f'_c clarifying whether the higher concrete strength is due to durability or structural design requirements.

Revision History:

POLICY #	TITLE	Effective Date	Revised	Reviewed
PE-CI-IBC-001	Concrete Exposed To Sulfate Containing Soils	May 1, 2007		
BP-CI-002	Concrete Exposed To Sulfate Containing Soils			August 15, 2008
BP-CI-002	Concrete Exposed To Sulfate Containing Soils			August 15, 2012
BP-CI-002	Concrete Exposed To Sulfate Containing Soils			June 30, 2013

Approved by: Ronald L. Lynn, Director	Concurred by: Gregory J. Franklin, Assistant Director
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