

Make the following changes to the Standard Specifications of January 2, 1990.

Page 5-107

Delete §584-2.01F and replace with the following:

"F. Microsilica Admixture. The microsilica admixture shall be supplied in either a densified powder or slurry form. The slurry shall be homogeneous and agitated as necessary to prevent separation. When tested, the microsilica shall meet the procedural directives of the Materials Bureau.

The microsilica admixture shall be accepted at the work site provided it meets all of the following requirements:

1. It shall be one of the products on the Department's Approved List. Only one brand shall be supplied.
2. Manufacturer's written certification that the material supplied is identical in composition to that prequalified in accordance with the procedural directives of the Materials Bureau. This certification shall also list fineness, silica content, total chloride ion content, solids content for slurries, and moisture content for densified powders, for the shipment supplied.

The microsilica slurry admixture shall be maintained in storage above the temperature of 32°F. Slurries exposed to temperatures of 32°F or lower shall be removed and replaced at no cost to the Department.

Field samples, for testing by the Department, will be taken. Refer to the CONSTRUCTION DETAILS, §584-3.09C1."

Pages 5-108 & 5-109

Under 584-2.02 #1 Note 4 and 584-2.04 #1 Note 4, delete "6.0" and replace with "6.5".

Under 584-2.02 #2 and 584-2.04 #2, in the Table under "Desired Air Content", delete "6.0" and replace with "6.5".

Under §584-2.02 #4 & 584-2.04 #4, delete the last paragraph and replace each with the following:

"The fine and coarse aggregate and all bulk cement shall be placed in Department approved bags. The admixtures shall be placed in Department approved, one quart containers."

Under 584-2.04 #3, delete and replace with the following:

"A high range water reducing admixture shall be required to improve workability. It shall be added at the project site. However, a small quantity may be added at the concrete batching facility to assist in mixing, upon approval of the Regional Materials Engineer. No more than two additions of the admixture shall be made, and the total quantity shall not exceed the manufacturer's maximum dosage rate. Each time high range water reducer is added, the concrete shall be mixed an additional minimum of 30 revolutions. The total number of revolutions shall not exceed 160.

Upon successful trials, as exhibited by consistent slump and air content results, the Regional Materials Engineer may allow the high range water reducer to be added at the concrete batching facility.

Page 5-110

Under §584-2.05C3, delete this paragraph and replace with the following:

"Microsilica concrete shall be produced in either one of the following: a mobile mixing unit, provided proper modifications are made to dispense the microsilica, and these modifications are approved by the Director, Materials Bureau; or, a concrete batch plant. If a mobile mixing unit is approved for use, the requirements of §584-2.05C1 shall apply. If a concrete batch plant is used, the requirements of Section 501 shall apply, except as modified herein.

When a concrete batch plant is used to supply the microsilica concrete, and a microsilica densified powder is used, the densified powder shall be weighed cumulatively with the cement. The densified powder shall be last in the weighing sequence and the tolerance for each material draw weight shall be based upon the total weight of cement plus densified powder. The batching tolerance for the cement plus densified powder shall be $\pm 1/2\%$ by weight.

When a microsilica slurry is used, the slurry shall be added prior to the initiation of the batching sequence using proportioning equipment approved and calibrated by the Regional Materials Engineer. The batching tolerance of the slurry shall be $\pm 2\%$ by weight.

Under §584-2.05D3 in the Table, change the tolerance of the Microsilica Admixture to $\pm 2\%$.

Page 5-115

Under §584-3.09C1 in the last line, delete "shipment" and replace with "day's placement".

Page 5-116

Under 584-3.09F, delete #2 in its entirety and replace with the following:

"2. The concrete shall be consolidated by internal vibration in accordance with §555-3.04B."

Page 5-118

Under 584-3.14B, delete #1a in its entirety and replace with the following:

"a. Temperature limits shall be maintained for 168 curing hours."