

LABORATORY MEMO

M.H. DETRICK CO.		ENGINEERING DEPT.		CHICAGO, ILLINOIS	
TO	FROM	CLASS			
Lab Committee	E. E. Varden				
SUBJECT		PROJECT			
		DATE	April 22, 1959		
Decrete 25 using Air Entraining Cement					

Gentlemen:

On the above date tests were made to determine the benefits if any, by the use of Air-Entraining cement in our Decrete 25; in place of our standard H. E. Cement.

Two identical blends of 250# each were setup, except that in one blend Air Entraining cement was substituted for regular High-Early.

Correct W/C ratios were determined in the lab and 3 C/F mixer was used to completely mix 40# of each blend it was found that 3 minutes was required to get the cement to pouring consistency.

TEST TABULATIONS

Test #1 - Using Regular H.E. Cement in Binder. No aggregate adjustment.

Test #2 - Using Air-Entraining Cement in Binder. No aggregate adjustment.

Test #3 - Blend taken from Warehouse stock. Aggregate adjusted for proper yield.

Test #1 - 40# Blend
77.5# water - Mix 3
minutes = 2-1/2 C/F

Test #2 - 40# Blend
66.5# water - Mix 3
minutes yield = 2.00 C/F

Test #3 - Blend & water
Mix 3 minutes yield =
1.22 C/F

Req. 22# cement
p.c.f. in place.

Req. 20# cement
p.c.f. in place

Req. 22.5# cement
p.c.f. in place.

Remarks

From the above it would seem that the use of A. E. cement does not benefit yield in this type of product for the reason that the amount of air entrained is off-set by the reduction in water of placability.

Further the high yield obtained above cannot be expected in the field as our measurements were taken in non-absorbant containers which gave the benefit of all the water in the mix which would not be true in the field.

Respectfully submitted,

E. E. Varden

**PLAINTIFF'S
EXHIBIT**

MHD-83