

ADMIXTURE LAB FOR Design and Control of Concrete

Regular mix with no admixture _____ Group 1

Water Reducers _____ Group 2

20% Fly Ash replacement _____ Group 3

50% Cement replacement with Slag _____ Group 4

DIRECTIONS:

- 1) Place cement in black mixing pan, add water and mix into paste.**
- 2) Add 2 scoops of coarse aggregate to the paste and mix thoroughly.**
- 3) Add 1 scoop fine aggregate to the mixture and mix.**
- 4) Check out the other groups.**
- 5) Repeat directions 2 and 3 and then check out the other groups.**
- 6) Work toward the same consistency as the sample up front.**
- 7) Run a slump test on the concrete. How many inches _____**

Check the mixtures of the other groups and compare them.

Is there any difference between the different groups?

Is there any color difference?

Is there a difference in consistency?

What other changes do you see with the different groups?

ADMIXTURE LAB SET-UP

ALL FOUR GROUPS SHOULD HAVE THE SAME MOISTURE CONTENT FOR THE FINE AGGREGATE AT OR ABOVE SSD

THE COARSE AGGREGATE FOR ALL GROUPS SHOULD BE AT SSD

GROUP 1

7 lbs.	CEMENT
3.50 lbs.	WATER
50 lbs.	FINE AGGREGATE (ABOVE SSD)
30 lbs.	3/8" COARSE AGGREGATE AT SSD
30 lbs.	3/4" COARSE AGGREGATE AT SSD

GROUP 2

7 lbs.	CEMENT
3.00 lbs.	WATER
.18 lbs.	WATER REDUCER
50 lbs.	FINE AGGREGATE (ABOVE SSD)
30 lbs.	3/8" COARSE AGGREGATE AT SSD
30 lbs.	3/4" COARSE AGGREGATE AT SSD

GROUP 3

5.60 lbs.	CEMENT
1.40 lbs.	FLY ASH
3.50 lbs.	WATER
50 lbs.	FINE AGGREGATE (ABOVE SSD)
30 lbs.	3/8" COARSE AGGREGATE AT SSD
30 lbs.	3/4" COARSE AGGREGATE AT SSD

GROUP 4

3.50 lbs.	CEMENT
3.50 lbs.	SLAG
3.50 lbs.	WATER
50 lbs.	FINE AGGREGATE (ABOVE SSD)
30 lbs.	3/8" COARSE AGGREGATE AT SSD
30 lbs.	3/4" COARSE AGGREGATE AT SSD