

O 79. USING OF FLY ASH INTO GROUTING MIXTURE

Mohammed, A.¹, Arslan, F.¹, Annayev, M.¹, Toka, E.B.¹, Yenginar, Y.², Olgun, M.¹

¹*Selcuk University, Engineering Faculty, Civil Engineering Department, Konya, Turkey*

²*Necmettin Erbakan University, Civil Engineering Department, Konya, Turkey*

E-mail: yyenginar@konya.edu.tr

ABSTRACT: Grouting mixture has many applications and various methods in civil engineering which can improve soil properties such as; permeation grouting, compaction grouting, hydro fracture grouting, jet grouting, rock grouting, compensation grouting, deep mixing methods, Ras-Columns. In this study, grouting mixture mainly contains three admixtures. The first admixture is cement which is a binder that sets, hardens and adheres to other materials. The second admixture is fly ash which is one of the byproducts of the coal combustion process. The most common use of fly ash is as a partial replacement for portland cement used in producing concrete. Concrete made with fly ash is stronger and more durable than traditional concrete made exclusively with portland cement. Since Fly ash is one of the byproducts of coal combustion it is considered to be. Using Fly ash into mixture will help in decreasing pollution of the environment as it is a waste that has to be recycled. The third admixture is super plasticizer which is a high range water reducer. It is used as a dispersant to avoid particle segregation and to improve the flow characteristics of suspensions such as in concrete or grouting applications. In this study, Taguchi Method will be used as a reference method in order to define the parameters of designs and investigate the factors of the grouting consistency (Marsh funnel viscosity test and sedimentation test).

Keywords: cement, fly ash, grout, Marsh funnel viscosity, super plasticizer