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## CLASSIFICATION OF GROUTABILITY OF SANDS BY LINEAR DISCRIMINANT ANALYSIS

### **Summary:**

*The aim of this study is to determine the groutability of sands with microfine cement using linear discriminant analysis depending on the different variables. First, grouting experiments were carried out on the sand samples prepared at different gradation and relative density with microfine cement prepared at different water / cement ratio. Linear discriminant analysis was then performed on the samples that had been injected. Discriminant analysis derives the discrimination formula for each group by learning the dependent variable according to the independent variables. With linear discriminate analysis, separation of groups is performed with least mistakes. The groutability of different graded sandy soils was taken as a dependent variable. By establishing a functional relationship between dependent and independent variables, the groutability of the sand was divided into 2 groups (grouted and ungrouted). In this figure, the distinguishing characteristics of groutability are determined. By means of the discriminant function obtained in the study, the possibility of injecting new observations can be determined.*

### **Key words:**

*Linear discriminant analysis, groutability, microfine cement, relative density*

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