

SOIL CLASSIFICATION SYSTEMS

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SUMMARY

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The main purpose of the project is to discuss and analyse the Atterberg Limits and the Mechanical Analysis of soils, as these are the main tests used for the classification of soils, and to carry out a survey on American and European soil classification systems used by Soil Engineers.

The approach followed was based on five elements:

Chapter 1, which constitutes the first element, was entirely devoted on giving informations about the origination of Soil Mechanics and analysing the Mechanical Analysis and the Atterberg Limits, used for the classification of soils. Additionally, the chapter gives some introductory informations regarding the classification of soils and states the soil classification systems found from a survey.

Chapters 2 to 9, are constituting the second element of the approach followed at the project. All the chapters are discussing and analysing in detail the systems found from the survey. An introduction to the system is firstly given and then a complete analysis is executed. This includes the general characteristics of each system, the identification, description and classification of all the soil groups through Laboratory and Field operations, the statement of the engineering properties and the uses of these groups and where is applicable a reference is given to previous publications of the current systems.

The third element of the project is based on the engineering properties of the soils and the problems which they cause at site. Even through the engineering properties of all the soil groups of all the systems are entirely analysed at chapters 2 to 9, chapter 10 is devoted in estimating the value of the most important properties of soils. After all, these are forming the most severe engineering problems at site and that's why these are discussed at chapter 11.

The fourth element of the project states the conclusions extracted from the diligent and continuous study of all the informations regarding the project.

The Appendix, which forms the final element, ^{is composed} constitutes of the following tests: Mechanical Analysis, Atterberg Limit Tests (Liquid Limit and Plastic Limit) and Proctor Compaction Test. The samples were four and were chosen arbitrarily. The significance of the Appendix is that all the theory on the classification of soils is applied in tests, by which the engineering properties and uses of the soil samples were determined, for all the soil classification systems.

All the necessary conclusions extracted from the project, are given at chapter 12, and they form the basis of this study.

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