

# **Characterization of Soils and Their Resistance Through the Unconsolidated Direct Shear Test in a Coastal City**

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## **Abstract**

It is necessary to carry out soil mechanics and resistance studies before deciding to carry out a civil construction in the Lima area, considering that it has geomorphological features of cliffs approximately 40 meters high next to the sea, since Lima is located in an area of high seismic risk, considering that the project is located 1 km from the Pacific Ocean and this could cause failure due to settlement due to a high sulfate content. Due to the lack of geotechnical studies in the sector, activities were carried out such as: data collection of the geological structure, tours in the study area and a test pit was made at a depth of 3 meters to determine the physical and chemical characteristics of the soil, as well as the resistance parameters through the direct shear test, which later allows us to find the behavior of the soil such as: moisture content, specific gravity and granulometry. Through these parameters, graphs and tables were made in which the structure and behavior of the soil in a coastal city is observed in more detail.

## **Keywords**

Pit, resistance parameters, seismic risk, settlement, physical and chemical characteristics of the soil

## **Biographies**

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Area of interest: projects, learning methodologies, motivation, leadership, He is an engineer with an MBA and a doctorate, as well as a project development advisor and professor at Ricardo Palma University. He motivates students for leadership and entrepreneurship in engineering projects and for writing and developing research articles.