

## **Study of the Potential of Raw Sediments and Sediments Treated with Lime or Cement for Use in a Foundation Layer and the Base Layer of a Roadway**

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**Abstract :** In this work, firstly we have studied the potential of raw sediments and sediments treated with lime or cement for use in a foundation layer and the base layer of a roadway. Secondly, we have examined mineral changes caused by the addition of lime or cement in order to explain the mechanical performance of stabilized sediments. After determining the amount of lime and cement required stabilizing the sediments, the compaction characteristics and Immediate Bearing Capacity (IBI) were studied using the Modified Proctor method. Then, the evolution of the three parameters, which are optimum water content, maximum dry density and IBI, were determined. Mechanical performances can be evaluated through resistance to compression, resistance under traction and the elasticity modulus. The resistances of the formulations treated with ROLAC&reg;645 increase with the amount of ROLAC&reg;645. Traction resistance and the elastic modulus were used to evaluate the potential of the formulations as road construction materials using the classification diagram. The results show that all the other formulations with ROLAC&reg;645 can be used in subgrades and foundation layers for roads.

**Keywords :** sediment, lime, cement, roadway

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