

## **EFFECT OF CHEMICAL ADDITIVES ON ENGINEERING PROPERTIES OF BASE AND SUB-BASE LAYERS**

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### **ABSTRACT**

The main objective of this work was to analyze the use of lime, bitumen and sodium chloride in base course material stabilization. Evaluation of strength properties of stabilized soil materials conducted by California Bearing Ratio (CBR) test. The material used in this research is crushed stone used as base and sub-base layers. The obtained results present that the lime has significant effect on strength improvement of stabilized layer. Also, 9% lime content is recommended to be the optimum to increase the bearing capacity as this content verifies standard specification of base layer which must be not less than 80% of CBR value. While emulsion bitumen and sodium chloride have positive effect on strength improvement, but not enough with respect to standard specification for stabilizing base course material. Consequently it should use another stabilizer with bitumen or sodium chloride to obtain required results for increasing strength of the stabilized layer.

**KEYWORDS:** Bitumen, CBR, Crushed Stone, Lime, Sodium Chloride, Stabilization, Strength Improvement