

## **Calcium bentonite vs sodium bentonite : The potential of calcium bentonite for soil foundation**

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### **ABSTRACT**

Bentonite is a favourable candidate as a sealing material in the deep geological repository to safe storage of highly radioactive nuclear waste in several countries. The high swelling characteristic made bentonite famously type of clay that extracted from smectite group with the main mineral is montmorillonite that has a double diffusion layer. The benefits of sodium bentonite like Wyoming bentonite has proven in the industry. Research on modifying the properties of calcium bentonite to high swelling clay like sodium bentonite for it be able to benefit the industry has been done. Most of the research attempted to improve the workability of calcium bentonite as an alternative material for replacing sodium bentonite in construction industry; however, very little is known about using raw calcium bentonite to improve weak soil subgrades. This paper highlighted the usage of calcium bentonite adapted in construction industry especially in soil stabilization activity and some experimental analysis has been made on the type of calcium bentonite found in British Columbia mine.

### **KEYWORDS**

Calcium bentonite; Chemical stabilization; Sodium bentonite; Soil stabilization

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