

# Geotechnical Properties Data of Raw and Processed Gebeng Bauxite; In Accordance with IMSBC Code

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## **Abstract:**

Raw bauxite deposits usually contain a higher percentage of clay and siliceous materials. The silica present in the bauxite usually are concentrated in the finer grained fraction of the bauxite deposit. The fine particles in bauxite will cause the bauxite to have higher moisture content and increases the risk of liquefaction to occur during the bauxite's transportation in cargo. This research is to identify the differences between the geotechnical properties of raw and processed Gebeng bauxite. The main objective of having beneficiation process before cargo transporting is to minimize the silica content which contributes to the finer fraction in bauxite, as well as to improve the geotechnical properties of bauxite so that it passes the specification of International Maritime Solid Bulk Cargoes Code (IMSBC) for cargo shipping purpose. In this research, a series of laboratory tests conducted and the results reflected the geotechnical properties of Gebeng Bauxite and the correlation of the bauxite's properties can be conducted. The results obtained were then compared with IMSBC Code where each of this basic properties are exceeding the specified value stated in the code. For raw Gebeng bauxite, it can be concluded that the bauxite collected from Gebeng mine are not suitable to be transported as it exceeded all the limitations stated in IMSBC Code. Hence, it is preferable if the bauxite from Gebeng mine undergoes beneficiation process before being transported to reduce the risk of cargo liquefaction.

**Keywords:** Bauxite; Cargo; Liquefaction; IMSBC Code; Gebeng

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