

THE UTILIZATION OF BY-PRODUCT GYPSUM IN ADOBE STABILIZATION

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ABSTRACT

This investigation reports the use of phosphogypsum as a by-product of wet-process phosphate fertilizer industry in order to improve the engineering properties of the adobe soil. Mineralogically phosphogypsum is similar to natural gypsum but it also contains some impurities. Phosphogypsum was used 0%, 5%, 10%, 15%, 20% and 25% of total dry mixture weight. The compressive strength, flexural strength, softening in water, shrinkage and dry unit weight values were determined on prepared 28-day specimens. Compressive strength and flexural strength values of adobe samples increased with phosphogypsum addition. The most resistance against softening in water of the adobe samples was obtained with 25% phosphogypsum addition. The dry unit weight of the specimens was not in the recommended range specified in the standard.

KEY WORDS :

adobe, phosphogypsum, soil stabilization