

CHEMICAL ANALYSIS OF ORDINARY PORTLAND CEMENT OF IRAQ

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ABSTRACT

This research studies the determining the characteristics of different types of cement available in Iraq and comparing between them by performing the chemical and physical test. The percentages of chemical constituents like SiO_2 , Al_2O_3 , Fe_2O_3 , CaO , MgO , SO_3 , and loss on ignition (LOI) were determined in accordance with Iraqi Standard Specifications[5]. Ratios of the alumina modulus (AM), silica modulus (SM) and lime saturation modulus (L.S.F) were also calculated. It was also found that all physical characteristics of all cement types such that compressive strength and setting were compatible Iraqi Standards Specifications and found that the strength of cement in all types result of two components (C_2S , C_3S). It has been observed that all cement type are contain excess amount of Fe_2O_3 . The possible reasons for variation in chemical compositions and their consequences have been discussed.

KEYWORDS: Ordinary Cement, Chemical Composition, Cement Characteristics