



Original Research Article

Comparative Study of the Physical Properties of Some Brands of Portland Cement Available in the Libyan Market

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ABSTRACT

The quality of cement is one of the important factors which materially contribute to the strength and durability of structural concrete. Different brands of Portland cement are used in Libya by local contractors for various construction work. However, no comparative study has been ~~made~~ undertaken hitherto to investigate the mechanical and physical properties of the various brands of cement. This study investigates the fineness, soundness, setting time and compressive strength of Libyan cement manufactured by the national Libda, Al-Koms, Al-mergeb and Al- borg plants and also some imported cements sold in the Libyan market. All brands of cement tested have normal and acceptable consistencies. The soundness values for all the brands tested fall below the maximum allowable value of 10 mm. Fineness values for all the brands tested fall within the standard specification limit ($2500 \text{ cm}^2 / \text{g} <$). Based on the results of compressive strengths alone, all the cements could be acceptable for normal construction work.

Keywords: Portland Cement, Libya, Physical Properties, fineness, soundness.

Introduction