

ECONOMICAL AND STRENGTH ASPECTS OF CEMENT DUST IN MORTAR PRODUCTION

Prof. Heba H. Bahnasawy, Housing & Building Research Center

ABSTRACT

Cement kiln dust is an alkaline waste material in the portland cement industry. It is currently being disposed of by dumping it in the nearby areas of the Egyptian cement factories at Helwan. The result being extensive environmental damage which reaching an alarming extent. An experimental program is carried out in this research using cement dust as partial replacement for the cement in cement-sand mortar mixes. Different dosages of water reducer admixture were added to the mixes to improve its consistency and reduce water content. The efficiency of cement dust replacement in influencing the stiffening time and mortar compressive strength was studied at different water-cementitious ratios and dosages of water reducer. It is believed that the promising results of this paper call for further experimental work in the directions indicated on the effects of cement dust replacement on cement paste and concrete properties.