



Treated Medical Wastes Concrete



Medical wastes are hazardous, toxic and even lethal because of their high potential for disease transmission, All countries face a serious problem in the disposal of the medical wastes, where medical wastes rise rapidly as healthcare services are extended to reach the remote areas. The medical waste incineration is the most traditional way to treat the medical wastes, which has two major components, the fly ash and bottom ash. The obtained medical waste fly ash contains high levels of dioxins, leachable alkali chlorides, carbon constituents, and heavy metals.

This paper studies the effects of the partial replacement of the Ordinary Portland Cement (OPC) content in the concrete with the treated medical wastes. Either Fly Ash or Bottom Ash is used to replace the cement content at certain percentages. Both of the compressive strength and the workability are tested at 2.5%, 5% and 7.5% of the replacement. The 7.5% replacement of the cement content with the medical waste fly ash gains 87.033% of the proposed concrete characteristic strength after 7 days of curing in pure water and 110.2% of the proposed concrete characteristic strength after 28 days of curing with pure water.