

EG0700300

**8th ARAB INTERNATIONAL CONFERENCE ON
POLYMER SCIENCE & TECHNOLOGY**

27 – 30 November 2005, Cairo-Sharm El-Shiekh, EGYPT

Low Porosity Portland cement Pastes Based on Furan Polymers

H. H. M. Darweesh

Refractories, Ceramics and Building Materials Department

The effect of three different types of Furan polymers on the porosity, mechanical properties, mechanism of hydration and microstructure of Ordinary Portland cement (OPC) pastes was investigated. The results showed that mixing the OPC with Furan polymers, the standard water of consistency of the different cement pastes decreases and therefore the setting times (initial and final) are shortened. The total porosity of the hardened cement pastes decreased, while the mechanical properties improved and enhanced at all curing ages of hydration compared with those of the pure OPC pastes. The hydration process with Furan polymers proceeded according to the following decreasing order: F.ac. > F.ph. > F.alc. > OPC