

[AMN02]

Durability of ferro cement structures in aggressive environment by laboratory tests

Faizal Md Hanafiah, Mahyuddin Ramli, Nik Fuaad Bin Nik Abllah.

School Of Housing, Building And Planning, University Science Malaysia, 11800 Minden, Penang, Malaysia.

E-mail : Faizal190770@yahoo.com

“Ferrocement is a type of thin wall reinforced concrete construction where usually a hydraulic cement is reinforced with layers of continuous and relatively small diameter mesh. Mesh may be made of metallic material or other suitable materials” The history of ferrocement is an interesting story that goes back to 1848 and many regarded it as the earliest use of reinforced concrete. The journal of Ferrocement which was originally published in New Zealand by the New Zealand Ferro Cement Marine Association was handed over to the International Ferrocement Information Center. In early 1977, the American Concrete Institution ACI had set up Committee 549 on ferrocement to review the present state-of-the-art and possibly to formulate a code of practice for this materials. It is now clear that ferrocement, a versatile material, has a bright prospect and will definitely find better utilization in the near future. This paper discusses the durability of ferrocement structures of polymer based admixture cement mortar in comparison with conventional cement mortar particularly when exposed to severe environmental conditions. The effect of marine environment and cyclic exposure to hot and humid environment increases deterioration process resulting in a high cost maintenance and repair. Polymer based admixture cement mortar are known for their high performance and durability properties. Polymer addition is found to improve compressive strength and many others engineering properties or mortars by reducing shrinkage and chloride permeability.