



A REPORT ON THE ONE DAY WORKSHOP ON FERROCEMENT TECHNOLOGY



Venue-Jerusalem College of Engineering, Chennai
Date 22 July 2011

The Workshop was jointly organised on 22nd July, 2011 by Ferrocement Society and the Civil Engineering Department of Jerusalem college of Engineering (JCE), CHENNAI.

Registration of the faculty members and the students started at 9 AM. Students of Jerusalem College of Engineering and other colleges viz., Pondicherry Engineering College, Bharath University, Dr. M.G.R. University, S.R.M. University, Panimalar Engineering College, Easwari Engineering College, Dr. M.G.R. Educational & Research Institute, Valliammai Engineering College, Sri Venkateswara College of Engineering. The entrance lobby was well decorated and everybody was welcomed with the traditional gandh, kumkum and flowers.



The inaugural function started by 10 am with traditional prayer in Tamil. Then welcome speech was given by Dr. P.B.Sakthivel, Professor of Civil Engineering, JCE, who coordinated this workshop on behalf of Ferrocement Society. Dr. S. Poornachandra, Principal, Jerusalem College of Engineering delivered the introductory speech.



The Chief Guest for the workshop was Dr. P.Paramasivam, Professorial Fellow, National University of Singapore. Among the dignitaries present were Dr. B.N.Divekar, President, Ferrocement Society, Mr. Pushyamitra Divekar, Mr. Prakash Nagnath, Dr. A. Jagannathan, Associate Professor, Pondicherry Engineering College, Dr. Neelamegam, Professor & Head, SRM Easwari Engineering College, Dr. Shoba Rajkumar, Associate Professor, Government College of Engineering, Bargur; and Dr. B.Vidivelli, Professor, Department of Civil & Structural Engineering, Annamalai University. Lightening of the lamp was done with hands of all the dignitaries on the dais.

In the 1st session, Dr. P.Paramasivam's presentation was very informative. He impressed upon the application of Ferrocement which are normally used as secondary roofs in Singapore. There is a low cost housing concept for which Government of Singapore spent money. Use of ferrocement in precast sunscreens and other building components has proved cost-saving in buildings. Cellular concrete 50mm thick is now being replaced by ferrocement with 30 thick panels through interlocking system. Precast industry is making millions of dollars. While discussing case studies of ferrocement, Prof. Paramasivam mentioned that stainless steel water tanks on the buildings are now being replaced by ferrocement tanks in Singapore. Impact resistant doors are also tested for blasting effects. In tidal zone ferrocement vertical sea wall along the sea protects the bank. In Trivandrum, a floating restaurant with ferrocement is built. He also showed the photos of Yugoslavia terrestrial structures, Zoo entrance in Indonesia and low cost houses in Malaysia. He also brought out that only mosque built out of ferrocement survived in the tsunami in Indonesia.



Er. Pushyamitra Divekar, Ferrocement professional in Pune, discussed so many buildings which he has constructed using ferrocement technology during the last 10 years. He said ferrocement walls can save 40 to 60 percent cost against the traditional RCC walls. Right from bungalow entrance gate, swimming pools, pergolas, doors, walls, lintels, stairs, water tanks, and decorative elements can be constructed using ferrocement. He said ferrocement use has minimised construction time, use of timber and soil, making it a green material.

The demonstration of ferrocement technique was arranged at the central open space of the college building. The skeleton with weld mesh and chicken mesh layers tightened on it was explained to the participants by Dr. Divekar. He showed the mortar and the filling method of mortar while Dr. Neelamegam assisted him. Students also tried the filling process using cement mortar.

After the lunch Er. Chandramohan Hangekar, Hon. Secretary, Ferrocement Society explained the functioning of the Ferrocement Society.



Er. Prakash Nagnath, Pune base ferrocement techie explained the potential of ferrocement precast industry. He explained his experiences in pergolas and fins. He said any shape is possible with ferrocement. While explaining the architectural applications he said ferrocement as a medium for sculpture proves its versatility and the unlimited dimension to which it can be used.

Dr. B. Vidivelli explained various tests on ferrocement and the formulation of methodology for rehabilitation of the beams. Performance of the beams were evaluated by the factors f_1 (energy approach) and f_2 (deflection approach). Ferrocement laminates can increase the flexural strength of the beams by 21 to 26 percent.



Dr. M. Neelamegam, former Director-Scientist, SERC-CSIR, Chennai and currently the Professor & Head of the Department of Civil Engineering, Easwari Engineering College, Chennai explained polymer ferrocement composites where polymer forms one of the ingredients of the matrix. He said polymer ferrocement composites are very cost effective in applications requiring high degree of durability and chemical resistance and quick repairing works. Stainless steel and other steels can be replaced by this method in building industry. He expected the engineers to frog-leap in the beneficial use of polymer ferrocement composites.



Dr B. N. Divekar explained the all-in-one method for which he has got patents. He explained the advantages and construction details of the cavity wall, floor construction. He said there is huge potential for the precast industry for the fresh engineers after their graduation for becoming entrepreneurs instead of searching any employment.

There was a question and answer session in which lot of technical questions on ferrocement and its applications were asked by the student participants and all the questions were answered by Dr. Paramasivam and Dr. Divekar.

The workshop was fruitful as the students gained a new area where they have a chance for becoming an entrepreneur and starting a small business or taking-up contracts using the above ferrocement technology instead of a job.



Certificates were issued to all the participants after the workshop.

The workshop concluded with vote of thanks by Dr. Anne Ligoria, Professor & Head of the Department of Civil Engineering, Jerusalem College of Engineering. She thanked all the experts and participants who attended this workshop and made a grand success. Prof. Anne mentioned special thanks to Dr. P.B. Sakthivel, Convenor of the Workshop. She congratulated the arrangements made by Prof. N S Elangovan and Prof. S. Sellappa, faculty members and all the student volunteers of the Jerusalem College of Engineering, Chennai.

It finally ended with the national anthem.