

A Report on the one day workshop
Geopolymer Concrete Technology and opportunities for Civil Engineering students.

At SRES's Sanjivani College of Engineering, Kopargaon, Dist Ahmednagar



The Civil Engineering Students Association CESA of SCOE with Ferrocement Society, India jointly organized this one day workshop on 3rd March 2023. The event was sponsored by Students Welfare Board, Savitribai Phule Pune University, Pune,. Dr. A. V. Deshpande was the in charge of this event. Engineering students always think of the jobs. They are rather worried about the opportunities after graduation. The intention of this workshop was to expose the students to the new technologies which can help them to become entrepreneurs.

The workshop was inaugurated by Dr A. G. Thakur Director Sanjivani College of Engineering Kopargaon in the MBA Seminar hall.

In the first session, Er. P.P.Lele, Vice President of Ferrocement Society explained the use of Geo-polymer & Ferrocement in the world. So many beautiful structures like Nautilus house, Mexico, the Century Centre Texas, dome houses in Chile, Indonesia, Sri Lanka are built using Ferrocement. But he said India is much ahead. In India also full buildings are built with ferrocement like a Jadhav Farm house in Satara, Bhalerao Banglow near Pune. Hundreds of various constructions are available where Ferrocement is used in India, like big size pipes, Silos, Fan duct cylinders, Big water tanks and retaining walls.





, Er. P.P.Lele, Vice President of Ferrocement Society has 35 years of construction and designing experience in Ferrocement. He explained how it is different from RCC, how it has got more strength, how the tensile strength makes this material ductile with help of different characteristic curves. Students were impressed by his presentation and found that it is totally different from RCC. The next question was how it is built?

In the next session a demonstration of the construction was arranged in the Materials Testing laboratory near the open ground. , Er.Rajiv Wadekar , showed the various meshes and skeletons. He demonstrated how they are welded and tied very tightly. The cement mortar was made by students in one part cement and two parts of fine sand. Water was added to the dry mix in 1:35 proportion. The mortar was quite thick and could not flow at its own. Small balls could be easily prepared by taking a lump in the hands. Er. PP lele said this is the field test to ensure that the mortar is very thick.



Some students turn by turn in batches of six actually performed the press-filling of mortar in the meshes. Two plane trowels were used on both side of mesh to press the mortar in the gaps of the wire meshes, which tightly tied with the skeleton. After this method the hand filling method was also demonstrated. The students realized that the mortar is remaining in its place without any shuttering or form work. This is the main advantage of the Ferrocement that no timber planks and shuttering is necessary. This makes Ferrocement as eco-friendly. Any shape can be given to the skeleton and it makes the structure beautiful.



Then again in the class room session Dr Divekar explained how innovative structures are built using Ferrocement. He explained cases where RCC contractors failed Ferrocement could be done easily. A nalla was diverted in Pune by constructing in situ Ferrocement pipe of 700 feet length and 15 feet diameter. Many such structure were explained by him.



r.LEle has developed “All in One method” of building construction. He explained how thermocole sandwich Ferrocement walls and slabs can be constructed. This type of new method is already used by him in his own building. He invited all the students to see the construction.

Er Rajiv Wadekar then explained how the project of Geopolymer Technology is prepared. The measurements are always taken in area basis like square meter. He explained the rates available in Government of Maharashtra’s Common schedule of rates on page 51, where 2 items are available for framing estimates. He explained how students can become entrepreneurs using this Ferrocement technology. There is scope for students after passing B E Civil. Architects need such engineers who can design and construct the most complicated curved and complicated structures.

Students also have opportunities for research in Geopolymer Concrete Technology for ME and doctorate. He explained Ferrocement Society of India based Pune is ready to assist such colleges and students. Society organizes National level Conventions every alternate year. He explained the students that they must become members of such professional societies to get up dates and remain ahead in technological advances. This will make them successful Engineers.

The workshop was concluded with very fruitful discussions with the experts Dr S. V. Patankar gave vote of thanks to the guests.
