

Kanacrete Panels

Kanacrete has introduced, from Japan, an innovative fiber reinforced ceramic material architectural precast non-structural wall panel into the US market

Kanacrete was developed in Japan by combining next generation technology from 40 years of proven technologies under Kanaflex that led to Kanastone, Kanastone floor panels and now Kanacrete.

Kanacrete is an innovative lightweight architectural precast non-structural wall panel for the commercial market. The panels are 30% or more lighter in weight when compared to traditional ferrocete architectural “off-site” precast wall panels and have the potential to reduce foundation and superstructure load requirements as well as shipping and installation costs.

Kanacrete **lightweight fiber reinforced ceramic material architectural precast wall panels** provide faster build speeds, and greater design opportunities with compatibility for various finishes to meet your specific construction project needs.

A unique property of Kanacrete is its engineered built-in thermal resistance, R-Value, within the panels. This is different than “insulated sandwich panels” and either eliminates or reduces the amount of exterior insulation needed on a project. The built-in R-Value also has potential to reduce impacts of thermal bridging.

Depending on the façade finish, **Kanacrete Exterior Wall Panels** are very low maintenance and resistant to extreme weather conditions making them ideal for owners Resilience and life cycle performance requirements.

Kanacrete is also compatible with Kanastone exterior facings or other upscale façade veneers.

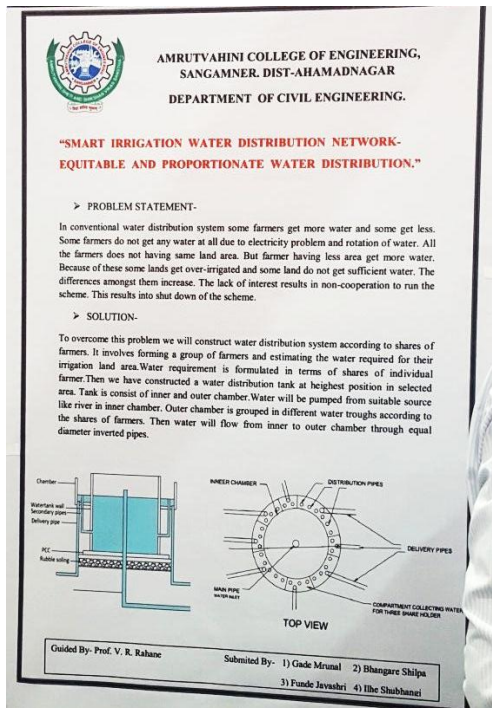


Insight-19 in Pune by MIT- ATD



Insight-19- 5th National Summit on “Indian Construction Scenario” was organised by MIT-ATD University and MITCOM (Loni Kalbhor) on 11 and 12th February 2019. Shri D R Hadadare, Chief Technical Officer of MAHARERA, Shri Voshwas Lokare, PCERF, Shri Vivek Gadgil, Ex CEO of Hyderabad Metro, were present. Prof Sunita karad, Director, MIT-COM, felicitated the guests.

The exhibition of many technical materials and technologies was visited by thousands of students and professionals. Ferrocement Society demonstrated the the use of this technology in future.



The FS code was appreciated by the guests.



Shri Shyamaprasad Palekar, Vijay Shitole and Snehal Shitole shared information on ferrocement. Students from Amrutvahini Engineering College, Sangamner displayed a ferrocement model of equitable distribution of irrigation water. The concept was guided by Prof. Rahane. This system can eliminate the disputes in farmers by giving them on-demand water with equal pressure. This will also minimise the seepage losses in irrigation.

Er Milind Kulkarni visits Hubli College, Karnataka.

KLE Society's Engineering College, Hubli organized seminar on innovative technologies on 1st February. Er Milind Kulkarni has given a lecture on "Introduction



and basic principles of Ferrocement". 35 Professors of North Karnataka Engineering Colleges and UG, PG, and PhD Students attended this seminar. This was a good opportunity to elaborate the subject in about 5 hours in 2 sessions. Prin. Sharad Joshi felicitated Er Milind Kulkarni.



JALVARDHINI NEWS

Er Ulhas Paranjape delivered a lecture on “RWH in rural area with innovative technique” at 5th Training course in RWH organised by IWWA Mumbai Centre, Wakola for engineering students. He introduced ferrocement as appropriate technology for conservation of water.

70th water tank in Karjat

Jalvardhini Pratishthan, Mumbai has constructed 70th ferrocement water tank at Mechkar wadi in Karjat Taluka, Dist Raigadh. The diameter is 10 feet and height is 4 feet. This was constructed for a farmer Shri Popat Mechkar on participatory approach.



Kerala ferrocement homes were handed over

500 sq feet Ferrocement homes at Rs 5 lakh was a challenging project in Kerala. The rehabilitation of the flood affected families was taken up by Kerala Government last year. Biji John from Ferrotechnologies, Chengannassery, Kerala has taken this challenge. She designed the homes and constructed very fast.



According to this report published in Onmanorama, the Indian Institute of Architects (IIA), and Institute of Indian Interior Designers (IIID) have come up with a method that enables the creation of a house measuring 500 sq ft, comprising two bedrooms, a kitchen and a formal living space, on a budget of only Rs 5 lakh! What's more, the house is made using ferrocement technology, giving it the ability to

withstand natural disasters like floods better than conventional homes. For those who have lost their homes, this unique innovation may just be what they need.

The technology will be deployed to rebuild properties that were destroyed or damaged in the Kerala floods, and Jiji Thomas, an engineer and expert in the field, will be a part of the rebuilding project. Many homes around Thrissur, built about 10 years ago, were constructed using this technology, and according to IIA Thrissur Chairman architect Ranjith Roy, if the government and other agencies are ready to bear the construction expenses, the center will provide technical help and supervision for free. Speaking to The Better India, Ranjith explained that a ferrocement house is created as a monolithic structure, as opposed to most houses, that use an assembly system. He also added that all drawings for ferrocement houses need to be in-scale,



and that erecting the skeletal frame of the house was the only activity that consumes time, in the home-building process. For those who are looking to rebuild their homes after the Kerala floods, this technology has made it possible to be a homeowner without going into debt!

**Contact: Ferrocement Society of Kerala
At Chenganassery, Kerala.**

Sayujya Urja (NGO) started ferrocement Training Centre

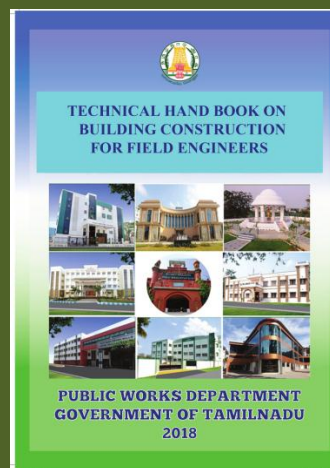
With the idea of **Shri Deepak Kanhere** of Sayujya Urja, Ferrocement Society has recently entered in to an agrrement with Sayujya Urja to start the training activities in a Training Centre in Marathwada area of maharashtra. The centre is located at **Gat No 48, Sonkhed, Milestone No. 190 on NH 361, Taluka- Loha, Dist- Nanded PIN 431708**. Renewable energy is now a greatly



expanding field such as solar energy, wind energy, biomass energy. Bio gas is one of the important sources in this area. For construction of a bio gas plant huge investment is necessary, so government has offered subsidy to interested people. Sayujya Urja, Nanded is established in February 2017 and registered under No 1741600310923564.

The centre will organise short and practical training of ferrocement construction for engineers,

architects, masons and workers. The centre will be run by Shri Kanhere and his assistants, Niranjan and Shyamaprasad Palekar. Ferrocement Society will act as guide and back up source. The land is already available. Water tanks, small ferro house, staircase, bio gas plant and other such ferrocement components will be built and exhibited on this land.



Tamilnadu Government published a technical handbook for PWD engineers recently. The soft copy of the booklet is already sent to members for reference.

Dr Subhash Patankar Wins prize

Winners of NTPC Grand Challenge for ash utilization Awarded

Raipur: In line with its endeavour to encourage and promote the generation of safe, reliable and eco-friendly power NTPC Limited, organised nationwide contest - Grand Challenge for Ash Utilization 2019. The winners who presented extra-ordinary ideas for achieving 100% ash utilisation were felicitated at an award ceremony by Union Power and New & Renewable Energy Minister (I/c), Shri R. K Singh, during IPS 2019 in Raipur.

The Winners - Shri N Kalidas got the first prize (individual category) of Rs 5 lakh, followed by Dr. S V Patnakar (Researcher) and Shri Kalidoss Subramaniyan and Shri T. Thangapandi (Team) in the 2nd (Rs. 3 lakh) and 3rd position (Rs. 2 lakh), respectively. Other winners, Dr. Kali Sanjay Consolation Prize for Rs.

1 lakh, Dr. Jaswant Singh Bhomrah Consolation Prize of Rs. 1 lakh. Shri B. Ramamohana Reddy, Shri Ajit Kumar Bhosle and Ms. M. Aishwarya got appreciation certificate.



With an aim to get practical, economically viable and implementable ideas on achieving 100% ash utilization from the public, NTPC had organized the Grand Ash Challenge Contest from 1st December 2018 to 24th December 2018. The contest received an overwhelming response and a total of 713 valid ideas were submitted to NTPC by the public. The entries were further scrutinized by an expert committee post which 20 teams were shortlisted at the first level.



**Er Avinash Kulkarni
from Ahmednagar**

Er Kulkarni is recently registered as a panel valuer to Insolvency and bankruptcy Board of India.

He has 25 years' experience in valuation field and design of structures. He is an active member of Ferrocement Society and the Chairman of Institution of Engineers (India), Ahmednagar Local Centre.



FerroCement Canopy of the Stavros Niarchos Foundation Cultural Center Athens, Greece

Case Study: (Courtesy: Jason Tzanakakis , Civil Structural Engineer M.Eng) Energy FerroCement Canopy at Stavros Niarchos Cultural Center Foundation An outstanding example of the implementation of FerroCement is the canopy of the Stavros Niarchos Foundation Cultural Center. It is a project with important innovations regarding the mixture and the way of FerroCement implementation. The implementation was in the roof (canopy) of the Opera with a surface of 10.000 m² (100 x 100m) which was composed of 717 individually prefabricated elements of FerroCement. These dimensions make the roof as the world's most significant construction of FerroCement.

The roof of the Cultural Center Foundation Stavros Niarchos is a milestone for the FerroCement technology. The knowledge resulting from the project and the requirements are a legacy for further research and implementation. The FerroCement proved to be suitable to meet the increased needs of a structure, especially when it is a load bearing structure (weight 4,700 tons). The technological development of FerroCement was and continues to be limited, despite the long presence of FerroCement in literature.

(See figures and photos below)



Figure 13: The positioning of the reinforcement on prefabricated slabs and beams. The laminated meshes can be recognized.

MIT College of Engineering organized Ferrocement lecture

Dr. Arun Purandare recently delivered a lecture on his precast theory of designing and construction of ferrocement components. The lecture was organized by Prof. Dr M S Kulkarni, MIT. Er Ashok Kumar Jain from Noida was present and he suggested new topics for further research. Er Milind Kulkarni, Consulting Civil Engineer from Mumbai was also present for the event. MIT College of Engineering is willing to build partnership with Ferrocement Society for further research activities. N S Jadhav, P P Lele, Girish Sangle, Prakash Nagnath discussed the new theory with Dr. Purandare. FS has already organized National Convention in MIT College in 2015.



Figure 8: Installation on the roof of the photovoltaic panels



Supreme European estate in Santa Ana (California, USA) has ferrocement walls

Magnificent home at less than replacement value. Only the best materials were used in the construction. Mixture of Italian and French style.

This beautiful house was built by a local architect on classical Italian in accordance with up-to-date anti seismic techniques well above Costa Rican Standard. The house has an extremely strong armature of steel beams and columns deeply anchored into the ground, which supports reinforced concrete floors.

The walls are made of ferro-cement panels on the outside and f wet rood gypsum panels on the inside, with a substantial gap between the two sets of panels. Resides making for easy access to electrical wiring and water pipes, the

light but strong structure is as earthquake proof. As it can in the present state of building techniques.

In the event of an earthquake “even a severe one of seven or more on the Richter Scale” the house is designed to move moderately without damage, unlike traditional reinforced concrete block constructions.

The roof is crowned by an Italian campanile, is made of terracotta tiles over a European under roof which guarantees maximum water tightness.



Double-dome Ferrocement house in Island Bay -USA

We love it when people think outside the square, and that's what's happened here – there are very few straight walls in this house in Island Bay, Wellington.

The three-bedroom house comprises two symmetrical, linked ferro-cement domes; one

accommodates the family living spaces and the other is the bedroom wing.

The overseas owners of the property have put it on the market and Bayleys listing agent Colin Rooney says it's likely to appeal to downsizers and young families. He also suggests it may well "bring out your Star Wars childhood fantasies".

"I would say to people, don't disregard it because it's different. The layout is quite clever, but it is probably one of those houses you really have to see to appreciate. It feels bigger than it looks from the outside. People coming through our open homes are also saying it feels better than expected."

Rooney says the house, built in the 1970s, has solid bones and is constructed from naturally insulating materials, so it's very cool in summer, and warm and dry in winter. "And the aerodynamic shape means there are virtually no wind issues – even when Wellington blows her most impressive gales."

Rooney says there are clear maintenance advantages from the dome structure. "You'll save on costly repairs – no roof, flashings, or gutters to worry about here. It's easily painted inside and outside to give it a fresh look."

Other special features include a conservatory living space at the rear, between the two domes, and views across Cook Strait to the Kaikōura mountains. There is also a large workshop and a double garage.

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FERROCEMENT SOCIETY (INDIA)**