

TAMIL NADU

Scientists come up with quick-to-assemble toilet



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Pact inked for technology transfer to manufacture panels

A cost-effective toilet that weighs less than 500kg and that has a life of 25-30 years can be made in-situ and even assembled in less than five hours. It is one of the prototypes the CSIR-Structural Engineering Research Centre (SERC), Chennai, has developed in the past three months for areas where toilet coverage is incomplete.

On Saturday, a Memorandum of Understanding was signed between CSIR-SERC and M/s. Smart Built Prefab Pvt. Ltd., Hyderabad, for technology transfer for manufacturing textile reinforced concrete (TRC) panels for the construction of such toilets.

The TRC panels are manufactured using textile reinforced concrete prototyping technology (TRCPT), an innovative all-in-one technology developed by CSIR-SERC, for which the Indian patent was applied for in 2014.

SERC senior scientist Smitha Gopinath, who is behind the effort, said the same panel can be used for doors, roofing, walls and even flooring. “We use glass textile mesh as reinforcement with a grained cementitious binder. It is corrosion-free and depending on how it is fixed, can withstand wind. No mould is required to make these sheets that vary in thickness from 15 mm to 25 mm. These panels used in the toilets are non-load bearing ones, but load-bearing walls and panels too can be designed,” explained Ms. Gopinath.

For now, each toilet costs between Rs. 12,000 and Rs. 15,000. With buildtex (textile used in building applications) being manufactured in India, the cost is expected to come down.

At present, imported buildtex costs Rs. 160 per square metre whereas the Indian variant costs Rs. 55 per square metre.

Buildtex is also being used presently in roads to prevent water seepage, in construction of dome structures, tiles for industrial and residential purposes and also for replacing roofing sheets.

The MoU was signed at the foundation day function of CSIR - SERC, which was presided over by Santosh Kapuria, director, CSIR-SERC. T. Ramasami, former secretary, Department of Science and Technology, delivered the memorial lecture on ‘Founders and Founding Principles – Their Lasting Impacts.’

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Smitha Gopinath

SERC senior scientist