

# TEXTILE REINFORCED CONCRETE PROTOTYPING TECHNOLOGY

*An all-in-one technology for production of various textile reinforced concrete products*

Textile reinforced concrete (TRC) is an upcoming non-conventional construction material consisting of fine grained cementitious binder and non-metallic textile reinforcement. CSIR-Structural Engineering Research Centre (CSIR-SERC) has developed textile reinforced concrete prototyping technology (TRCPT), a precast technology to produce TRC components for which an Indian patent has been filed (Filing no.: 2751DEL2014). TRCPT can serve as an effective indigenous technological solution for pre-cast construction industry to achieve economical mass production of TRC products.

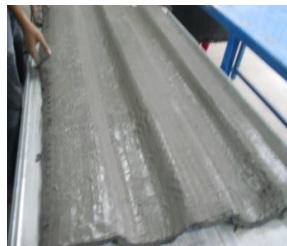
## FEATURES / HIGHLIGHTS

- Completely avoids the conventional way of concrete construction, which makes use of moulds
- Various products for structural and non-structural applications can be produced from this single technology
- Less fabrication cost with increased production rate



## TECHNICAL DETAILS

- Using this technology, prototyping is done by placing the TRC sheets over the shape to be constructed soon after the production, and it adapts to the specific configuration
- The mechanical properties of TRC products are controlled while producing the TRC sheet itself, and this convenience leads to less variability of its properties
- Scale up and scale down of this technology is possible for in-site applications
- TRCPT technology also helps to increase the speed of manufacture of TRC products



*Production of TRC roofing sheet using TRCPT*



Lining of a damaged canal using TRC produced from TRCPT



Demonstration of strengthening of RC beam using TRC produced from TRCPT



TRC products produced using TRCPT

## APPLICATIONS

- Production of standalone components such as sandwich panels, facade elements, industrial flooring tiles, street furnitures, canopy structure partition walls, noise barriers, roofing elements, manhole covers
- Production of nonstructural components such as flower pots, wash basins, door and window frames, door panels, etc.

## TECHNOLOGY TRANSFER

- Technology is available for transfer to interested players in the industry.

## ALLIED TECHNOLOGIES AT CSIR-SERC

- Light-weight TRC tiles for wall/flooring applications
- TRC non-load bearing panels
- Mobile construction unit for producing TRC products
- TRC load bearing wall panel system



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