RAPID MASS HOUSING

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Abstract

There is a huge growing requirement of building materials in India due to rapid increase in population, thus in housing storage. Total estimated housing shortage for Urban & rural India in 2012 is 68.53 million units.

To meet this challenge, India requires innovative, energy efficient building materials for strong and durable housing in fast track method of construction at affordable cost. It is also important that housing and buildings are disaster resistant to protect the lives and properties of people. All these concerns are involved in sustainable and inclusive development.

The construction of building systems using Glass Fiber Reinforced Gypsum (GFRG) panels is a very promising and emerging building technology.

GFRG panel system commonly known as rapidwall is an alternate technology for construction of buildings was originally developed and used by Australian for last 2 decades. These GFRG panels are made by a semiautomatic machine using phospogypsam which is an industrial waste thus constituting in sustainable development. GFRG panels can be used for the construction of multistoried building without any restrictions on number of stories.GFRG buildings can completely avoid cement plastering, and uses much less quantities of steel, cement sand and water compared to conventional buildings. The conventional building evolves about 40% of CO2 to atmosphere where as GFRG buildings are environmental friendly as they consume less embodied energy (less carbon evolution). Design and construction aspects of GFRG buildings are presented in this paper.

The paper describes the method of construction using Rapid wall panels based on construction manual prepared by IIT Madras to suit Indian situation.