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Precast Constructive System for Social Housing using Bamboo.

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ABSTRACT

There is a huge habitational deficit in Brazil for the low income population. The following system represents an attempt to supply this need. The system described in this paper was demonstrated in the construction of a dwelling of social interest in the city of Maceió, state of Alagoas at the campus of the Federal University of Alagoas as a result of a cooperation agreement between the Instituto do Bambu (Brazilian Institute of Bamboo) and the local State Agency for Housing and Urbanization. The system consists of micro concrete panels with bamboo reinforcement for the production of walls, beams and columns. The micro concrete was obtained with cement, sand, whitewash, shredded tire scraps (residue from tire reconditioning industries) and bamboo fiber. The use rubber scraps resolves a serious environmental problem as it consists of a problematic residue, produced in great volumes and inadequate for discard in waste embankments or sanitary landfills. Its use together with bamboo fiber reduced the weight of the mortar in 53%.
The system was conceived to be executed by three people during the assembly of the house, and a team of six people in the whole process (production of precast components), generating workmanship and income to the workers envolved.

KEY WORDS :

Bamboo;
Micro Concrete;
Social Housing;