

Obtaining a lightened concrete based on recycled paper and glass for the manufacture of blocks and prefabricated panels

The obtaining of a lightened concrete based on recycled materials for the manufacture of interior walls of buildings located in seismic zones is the objective of the present work. The use of ground glass, paper and cardboard obtained from the recycling of bottles, newspapers and corrugated cardboard boxes is evaluated. In the research, comparative tests were carried out between concrete mortars and several combinations of the paper, cardboard and glass content were tested to determine the influence of these materials in weight, the texture of the hardened concrete and its resistance to traction and flexural strength. It was determined that the concrete samples with 25% cement and 75% glass have a texture and weight similar to the standard mortar, while the specimens lightened with 50% of a paper and cardboard mixture, with 25 glass and 25 % cement, has an excellent surface texture with a decrease of the total weight of the specimen of 45%.