

Utilization of Bauxite Residue in Construction Materials: An Experimental Study

Authors : Ryan Masoodi, Hossein Rostami

Abstract : Aluminum has been credited for the massive advancement of many industrial products, from aerospace and automotive to electronics and even household appliances. These developments have come with a cost, which is a toxic by-product. The rise of aluminum production has been accompanied by the rise of a waste material called Bauxite Residue or Red Mud. This toxic material has been proved to be harmful to the environment, yet, there is no proper way to dispose or recycle it. Herewith, a new experimental method to utilize this waste in the building material is proposed. A method to mix red mud, fly ash, and some other ingredients is explored to create a new construction material that can satisfy the minimum required strength for bricks. It concludes that it is possible to produce bricks with enough strength that is suitable for construction in environments with low to moderate weather conditions.

Keywords : bauxite residue, brick, red mud, recycling

Conference Title : ICSWMR 2019 : International Conference on Solid Waste Management and Recycling

Conference Location : Montreal, Canada

Conference Dates : August 05-06, 2019