

عنوان مقاله:

A Study on the Structural Effects of Bagasse Sugar Cane Stem In Structural Concrete Mixture in Sulfate and Chloride Environments

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نویسنده:

Seyed Ali Mmousavi Davoudi - *Department of Structural Engineering, Faculty of Engineering and Civil Engineering, Tabari University of Technology, Babol, Iran*

خلاصه مقاله:

Due to the high volume of agricultural waste, the use of some of them in the manufacture of concrete reduces the production residues and the problems caused by their lack of recycling. Bagasse is a pulp produced after sugar cane extraction. The sugar cane factories produce about 1.2 million tons of excess bagasse annually due to the lack of conversion industries. In today's modern world, due to advances made in various scientific fields, the concrete industry has also evolved. The production of concrete containing pozzolan bagasse is also the result of the same improvements; concrete. In this study, for the production of synthetic pozzolan sugarcane bagasse, according to studies bagasse was burned for 30 minutes at a controlled temperature of 4 ° C. Then, by replacing 1, 2, 3, 2, and 2% of bagasse ash instead of cement in concrete, compressive strength, electrical strength, chloride penetration were evaluated by RCMT, water pressure, and sulfate resistance. The results showed an increase in compressive strength of the specimens up to 5% of cement replacement at different ages and a higher percentage of compressive strength loss was observed in the control specimen, but the electrical resistance at different ages increased by up to two-fold in the control specimen and also decreased. Before this, attention was drawn to the amount of water and chloride ion penetration. Sulfate resistance also increased by up to 5% replacement, but the highest sulfate resistance was observed in the sample by 5% replacement.

کلمات کلیدی:

sugar cane, Pozzolan Bagasse, Sulfate Environment, Chloride Environment

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