An Experimental Approach to Construct an Organic Slab

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The bi-product of wheat straw is used in many ways and can also be used effectively for making an organic tile. Wheat is one of the largest cereal crops in Pakistan. Pakistan's wheat production is growing at an average annual rate of 3.13%. The goal of this project was to propose an alternate of the hazardous chemical based Asbestos tile by using waste wheat straw. The new product was made by mixing wheat straw with its own binding agent lignin to make an organic slab. 3 samples were made with different binding agent. 1st sample was made by mixing wheat straw and binding agent lignin. It was than mixed with water with the ratio of 1:3 and was placed under the sun for 12 hours. 2nd sample was made by mixing wheat straw, and cement as the binding agent and ratio 1:3 of water and similarly was placed under the sun for 12 hours. The 3rd sample was built in the same way as second just with the binding agent as stone ware. Different experiments were conducted in which density, compressive strength, water porosity and specific heat were tested and it was concluded that the sample made with wheat straw had the most compressive strength, less heat absorption and least density of all. According to research papers wheat straw has 29% less water porosity than Asbestos. It is environmental friendly, and cost effective, since it uses agricultural waste product. In future, three similar samples can be made industrially.

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