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THE USE OF CHINESE INDUSTRIAL WASTE IN CONSTRUCTION

M. GUONA
(*Presented by: A. Yagubkin*)

In foreign countries, as people pay more and more attention to environmental protection, energy saving and other issues, considering the relative. Superiority, people mix grass straw and soil with water as materials for building walls, such walls The structure is stronger and there are no cracks. However, it is burned on the spot, causing a large amount of smoke and dust, resulting in the formation of smog and haze, which has caused great problems to the environment. China has always attached great importance to the issue of straw. Relevant regulations have been made for comprehensive utilization, and the comprehensive utilization of straw resources has been planned as a "five modernizations" project. The test showed that after the treatment, the sugar precipitation in the straw was effectively blocked and the concrete was shaped; when the straw content was 30% At the same time, the 28-day compressive strength of concrete reaches 9 MPa, which meets the requirements for the use of thermal insulation materials.

In foreign countries, as people pay more and more attention to environmental protection, energy saving and other issues, considering the relative. Superiority, people mix grass straw and soil with water as materials for building walls, such walls The structure is stronger and there are no cracks. By the 1980s and 1990s, on the North American continent. This technique is becoming more and more popular. Countries around the world have begun to test the various mechanical properties of this straw wall [1-4].

In 1980, a Finnish research center [5] took the lead in developing a concrete composite material of crop straw fiber and measured the mechanical properties of various crop fiber concrete composite materials with different densities and gave the wood within a certain density range. Durability of fiber reinforced concrete.

Beginning in 1981, a well-known Australian company began to develop autoclaved plant straw fiber reinforced cement, and finally developed this technology to parts of North America, Asia and Africa [6].

H.Sattlerl [7] mentioned in the article that if wood fiber, shavings, glass fiber, etc. are properly added to the gypsum slurry as reinforcement materials for gypsum, as long as there is sufficient bonding strength between the slurry and the fiber, then the fit The performance will be affected by the reinforcement content and its properties. The addition of reinforcing materials contributes to the

High mechanical properties of materials, such as brittle fracture behavior, tensile and flexural strength, etc.

In 1990, M. Sarigaphuti [8] in the United Kingdom extracted the plant cellulose of pine and poplar, put it into the matrix of concrete material as a reinforcing substance, and studied various cellulose under the same volume dosage. The effect of fibers on retarding crack growth in concrete under accelerated aging environments. The results of the study showed that the two types of fibers can well control the crack propagation of concrete.

In 1993, the relevant departments of India promulgated a decree prohibiting the use of wood in construction, with the purpose of developing low-cost construction materials that use agricultural waste, such as wheat straw, sugar cane bagasse, soybean straw and rice straw as raw materials [9]. In 1995, some scientists in Egypt [10] adopted palm leaf fibers to study the mechanical properties of reinforced concrete.

Crop straw is an available biomass resource rich in nitrogen, phosphorus, potassium and organic matter nutrients, and is the main by-product of agricultural production [11]. China is very rich in straw resources. In 2015, the total amount of straw in China reached 8.28125×10^8 t [12]. Most of the stalks are not effectively.

However, it is burned on the spot, causing a large amount of smoke and dust, resulting in the formation of smog and haze, which has caused great problems to the environment. China has always attached great importance to the issue of straw. Relevant regulations have been made for comprehensive utilization, and the comprehensive utilization of straw resources has been planned as a "five modernizations" project [13].

Li Chaofei [14] studied the impact resistance of straw fiber concrete and found that when the concrete is continuously impacted by external forces, the impact resistance of rice straw fiber concrete is 73% higher than that of standard concrete. 3%, the reason is that the straw fiber can absorb this part of the energy first, delaying the crushing of concrete. Sun Jing et al. [15] used corn stalks to prepare new energy-saving and environmentally friendly concrete, and designed a covering pretreatment. The test showed that after the treatment, the sugar precipitation in the straw was effectively blocked and the concrete was shaped; when the straw content was 30% At the same time, the 28-day compressive strength of concrete reaches 9 MPa, which meets the requirements for the use of thermal insulation materials. Ji Yiqi [16] tried to prepare fiber concrete with aloe bar. The test showed that the method of mixing cement can better improve the retarding effect of fiber extract on cement; the 28-day compressive strength of aloe fiber concrete mixed with cement mortar can be improved up to 59.8 MPa.

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