

Research and study on "bamboo" as a new structure

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Abstract

Chosen of Building materials are for their functionality, technical characteristics and cost. However, in recent years, especially in Western countries the growing issue of sustainable development, has led to the inclusion of environmental cost as a criterion in the construction principles retained, this is why increases attention gradually to non-industrial materials such as vegetable fibers .Bamboo is an easy-to-grow renewable material with good technical characteristics, and it seems to be a possible alternative to traditional materials such as concrete, steel or wood. Thus, architects and creators are founding methods of implementation. They search way of locally adaptable technologies the construction qualities of this material will integrate with technological development in the field of building materials. These sustainable materials will exceed the limits of locality and are gradually becoming more important in modern buildings.

This article introduces bamboo as a natural steel and explains its function in detail.

Keyword: Building Material, Bamboo, Sustainable development, New structure

1. INTRODUCTION

Bamboo, regardless of its diameter, is easy to cut, handle, repair, replace and retain its advantages as a building material, without the need for sophisticated tools or equipment. Because of its extraordinary physical characteristics, bamboo is suitable for all types of structure and construction. Bamboo is non-polluting and does not have crusts or parts that can be considered scraps. Instead of adding to pollution problems in landfills like conventional building waste, any part of the bamboo that is not used can be reused back into the land as a fertilizer or can be treated as charcoal. Its circular shape and hollow sections make bamboo a lightweight building material, easy to handle, transport and store(1). Therefore, building with bamboo saves time and of course cost. By its ease of use and implementation, bamboo can be used for permanent constructions as temporary. Besides, if it can be used as a structural element, bamboo can also fulfil other functions, such as floors, wall paneling, water pipes, drainage, and furniture. The other advantage of building with bamboo is that it can be used in combination with other types of building materials such as concrete. Through this work, we will try to explain the properties of bamboo as a building material, its environmental impact, and how these characteristics allow architects to realize their ideas(2).