# Article information:

Chitosan-tannin adhesive: Fully biomass, synthesis-free and high performance for bamboo-based composite bonding - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0141813022032627>

# Article summary:

1. A synthesis-free and fully biomass adhesive composed of chitosan and tannin (CST) was developed by a facile method.

2. CST adhesive has remarkable water resistance and low cure temperature, with dry lap shear strength above 5.00 MPa achieved when 160°C hot-press temperature was used.

3. CST adhesive exhibited great potential to be an ideal alternative to formaldehyde-based resin for wood and bamboo bonding due to its advantages including outstanding water resistance, facile preparation, fully biomass, and low cure temperature.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Chitosan-tannin adhesive: Fully biomass, synthesis-free and high performance for bamboo-based composite bonding” is a well written article that provides detailed information on the development of a new type of adhesive made from chitosan and tannin (CST). The article is reliable in terms of the evidence presented as it provides data from experiments conducted to test the performance of the CST adhesive for bonding bamboo, wood and bamboo-wood substrates. The article also presents results from tests conducted to measure the wet shear strength of plybamboo specimens after 3 hours boiling in water as well as after 72 hours boiling in water. Furthermore, the article discusses the potential of CST adhesive as an alternative to formaldehyde-based resins for wood and bamboo bonding due to its advantages such as outstanding water resistance, facile preparation, fully biomass composition, and low cure temperature.

The article does not present any biases or one sided reporting as it presents both sides equally by discussing both the advantages and disadvantages of using CST adhesives for wood and bamboo bonding. Additionally, there are no unsupported claims or missing points of consideration in this article as all claims are supported by evidence from experiments conducted on different substrates such as bamboo, wood and bamboo-wood composites. Furthermore, there is no promotional content or partiality present in this article as it does not promote any particular product or brand but rather focuses on presenting scientific evidence regarding the performance of CST adhesives for wood and bamboo bonding applications. Lastly, possible risks associated with using CST adhesives are noted in this article which further adds to its trustworthiness and reliability.

# Topics for further research:

* Chitosan-tannin adhesive properties
* Bamboo-wood composite bonding
* Formaldehyde-based resin alternatives
* CST adhesive water resistance
* CST adhesive preparation methods
* CST adhesive cure temperature

# Report location:

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