

## **Thermal treatment of wood using vegetable oils: a review**

### **ABSTRACT**

Wood is an ideal building material as it is renewable and green. However, low dimensional stability and durability might restrict its usage in structural application. Therefore, modification is needed to improve the aforementioned issues. As an environmentally friendly wood modification method, heat treatment of wood using oil as a heating medium has brought to researcher's attention to the fact that it might serve as an excellent treatment procedure in treating wood. This paper presents a review about the effects of oil heat treatment on the properties of wood such as colour stability, dimensional stability, mechanical strength and durability against termites and fungi as well as its potential to be used as construction and building materials. The pros and cons of using oil as a heating medium in wood treatment are discussed. This review shows discrepancies between the treatment methods or procedures and its resultant findings. Moreover, the effectiveness of the treatment is governed by several factors such as the type of oils used and wood species. The objective of the present paper is to conduct a review of the published literatures regarding the properties of wood modified by oil heat treatment and the results obtained were compared systematically.

**Keyword:** Oil heat treatment; Literature review; Vegetable oils; Wood modification; Thermal treatment