

Synergistic influence of flame retardant additives and citric acid on the functional properties of rice husk/wood blended particleboards

ABSTRACT

The selected functional properties of rice husk/wood blended particleboards which include thermal analysis, limiting oxygen index, morphological analysis, and mechanical properties have been investigated. Rice husk/wood particleboards were produced with one step hot press casting technique using citric acid to improve the compatibility in the particleboards with calcium oxide and aluminum oxide as flame retardants. The results showed improvement in the mechanical properties, flame retardancy, and thermal stability with the addition of flame retardants to the particleboards. The aluminum oxide synergy with citric acid in rice husk/wood particleboards gave the best flame retardancy.