

Improving Fire Resistance of Wood and Wood-Based Composites and Fire Testing Systems

Authors : Nadir Ayrilmis

Abstract : Wood and wood-based panels are one of the oldest structural materials used in the construction industry due to their significant advantages such as good mechanical properties, low density, renewable material, low-cost, recycling, etc. However, they burn when exposed to a flame source or high temperatures. This is very important when the wood products are used as structural or hemi-structural materials in the construction industry, furniture industry, so on. For this reason, the fire resistance is demanded property for wood products. They can be impregnated with fire retardants to improve their fire resistance. The most used fire retardants, fire-retardant mechanism, and fire-testing systems, and national and international fire-durability classifications and standard requirements for fire-durability of wood and wood-based panels were given in this study.

Keywords : fire resistance, wood-based panels, cone calorimeter, wood

Conference Title : ICWCCS 2020 : International Conference on Wood Composites and Composite Science

Conference Location : Dublin, Ireland

Conference Dates : November 05-06, 2020