

Drying performance, as well as physical and flexural properties of oil palm wood dried via the super-fast drying method

ABSTRACT

Effects of incising parameters were studied relative to the drying performance and properties of super-fast dried oil palm wood. Different incising depths (1/3, 1/2, 2/3, and 100% of the total thickness) and distance (38 mm and 50 mm) were made on the oil palm wood boards prior to the super-fast drying procedure. All the boards achieved the desired moisture content after drying. Drying defects were minimal, as only two boards indicated end checks and surface checks defects. The board density ranged from 0.44 g/m³ to 0.60 g/m³, and the thickness swelling and water absorption of the boards ranged from 8.3% to 12.5% and 45% to 67%, respectively. The specific modulus of rupture and elasticity ranged from 0.35 N m³/kg mm² to 0.77 N m³/kg mm² and from 77.64 N m³/kg mm² to 118.40 N m³/kg mm², respectively. It can be concluded that the hole distances did not exert significant effect on the properties, with exception of specific modulus of elasticity. A hole depth of 1/3 mm was preferable, since the surface looked like no incision had been made and the sample had good physical and flexural properties.

Keyword: Incising parameter; Drying performance; Oil palm wood; Super-fast drying method