KARAKTERISTIK PENGERINGAN KAYU PINUS (*Pinus Merkusii*) PADA LIMA UMUR DAN RENDEMENNYA SEBAGAI BAHAN BAKU *FINGER JOINT LAMINATED BOARD*

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INTISARI

Penelitian ini bertujuan untuk menganalisis pengaruh lima umur kayu Pinus (*Pinus merkusii*) yaitu umur 9, 14, 19, 24, dan 29 tahun dan tiga variasi ketebalan bahan baku (20 mm, 30 mm, dan 40 mm) terhadap karakteristik pengeringan serta rendemen sebagai bahan baku Finger Joint Laminated Board (FJLB). Sampel kayu berasal dari tebangan E (penjarangan) Perum Perhutani KPH Jember dan diolah menjadi *Rough Sawn Timber (RST)* sebelum dikeringkan menggunakan *kiln dry*. Pengamatan meliputi kadar air, berat jenis, penyusutan dimensi, cacat pengeringan, serta perhitungan rendemen sebelum dan sesudah pengeringan.

Hasil penelitian menunjukkan bahwa umur kayu berpengaruh signifikan terhadap rendemen RST setelah pengeringan ($p = 0{,}017$), sedangkan ketebalan tidak memberikan pengaruh nyata ($p = 0{,}940$). Kayu umur 19 tahun menghasilkan rendemen tertinggi, sementara umur 14 tahun merupakan yang terendah. Penyusutan dimensi dan cacat pengeringan bervariasi antar umur, terutama terkait proporsi *juvenile wood* dan stabilitas dimensi. Secara umum, performa pengeringan menunjukkan bahwa kayu Pinus hasil penjarangan pada umur 19 tahun memberikan efisiensi terbaik dalam mempertahankan volume setelah pengeringan, dibandingkan umur 9, 14, 24, dan 29 tahun.

Temuan ini menegaskan bahwa variasi umur kayu perlu dipertimbangkan sebagai dasar seleksi bahan baku industri FJLB. Pemilihan umur yang tepat dapat meningkatkan efektivitas pemanfaatan log, mengoptimalkan rendemen, mengurangi cacat pengeringan, dan meningkatkan nilai tambah pada pengolahan kayu Pinus di lingkungan industri Perhutani.

Kata kunci: Pinus merkusii, pengeringan kayu, rendemen, *finger joint laminated board*, umur.

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DRYING CHARACTERISTICS OF PINE WOOD (Pinus merkusii) AT FIVE AGE CLASSES AND ITS YIELD AS rough MATERIAL FOR FINGER-JOINT LAMINATED BOARD

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ABSTRACT

This study aims to analyze the effects of five age classes of pine wood (Pinus merkusii), namely 9, 14, 19, 24, and 29 years, and three variations of rough material thickness (20 mm, 30 mm, and 40 mm) on drying characteristics and yield as rough material for Finger Joint Laminated Board (FJLB). Wood samples were obtained from E-cutting (thinning) operations of Perum Perhutani, KPH Jember, and processed into Rough Sawn Timber (RST) prior to kiln drying. Observations included moisture content, specific gravity, dimensional shrinkage, drying defects, as well as yield calculations before and after the drying process.

The results indicate that wood age has a significant effect on RST yield after drying ($p = 0.017$), whereas thickness does not show a significant effect ($p = 0.940$). Wood aged 19 years produced the highest yield, while 14-year-old wood resulted in the lowest yield. Dimensional shrinkage and drying defects varied among age classes, particularly in relation to the proportion of juvenile wood and dimensional stability. Overall, drying performance demonstrates that thinning pine wood at intermediate ages provides the best efficiency in maintaining volume after drying.

These findings confirm that variation in wood age should be considered as a fundamental criterion for rough material selection in the FJLB industry. Appropriate age selection can improve log utilization efficiency, optimize yield, reduce drying defects, and enhance value addition in pine wood processing within the Perhutani industrial context

Keywords: Pinus merkusii, wood drying, yield, finger joint laminated board, wood age.

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