

**PENGARUH JUMLAH EPOKSI TERLABUR TERHADAP SIFAT  
FINISHING TIGA JENIS KAYU UNTUK KAPAL**

Oleh :

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**INTISARI**

Indonesia dikenal sebagai negara maritim dengan alat transportasi kapal. Sejak dahulu, kapal sebagian besar dibuat dari kayu karena banyak pilihan kayu kuat dan awet di Indonesia. Namun saat ini kayu kuat dan awet semakin sulit diperoleh, sehingga memerlukan pilihan bahan baku kapal dengan jenis-jenis kayu cepat tumbuh untuk sebagai elemen kapal kayu. Jenis kayu cepat tumbuh umumnya bermutu rendah, sehingga diperlukan teknologi pengerjaan akhir (*finishing*) eksterior (epoksi) untuk meningkatkan kualitasnya. Setiap kayu memiliki sifat dan karakteristik yang berbeda sehingga memerlukan jumlah epoksi yang optimal untuk meningkatkan kualitas kayu tersebut. Oleh karena itu, penelitian ini bertujuan untuk mengetahui interaksi antara variasi jenis dan jumlah epoksi terlabur terhadap sifat *finishing* tiga jenis kayu alternatif komponen kapal kayu. Penelitian ini menggunakan rancangan acak lengkap dengan dua faktor, yaitu jenis kayu (Mahang, Gerunggang, dan Jabon) dan jumlah epoksi terlabur (30#/MSGGL, 40#/MSGGL, dan 50#/MSGGL). Bahan *finishing* epoksi dan hardener disiapkan dengan rasio 2 : 1. Pengujian kualitas kayu komponen kapal meliputi sifat *finishing* berupa *cross cut test* berdasarkan standar ISO 2409 dan *coin test* berdasarkan standar PT. Sunjaya Coating Perdana serta sifat fisika berupa pengembangan tebal dan penyerapan air berdasarkan standar British 373. Hasil penelitian menunjukkan bahwa interaksi antara jenis kayu dan jumlah epoksi terlabur berpengaruh sangat nyata pada semua sifat *finishing* dan fisika tiga jenis kayu alternatif komponen kapal. Jenis kayu Gerunggang dengan perlakuan jumlah epoksi terlabur 40#/MSGGL menghasilkan sifat *finishing* dan fisika tiga jenis kayu komponen kapal kayu teroptimal dengan rata-rata persen kerusakan *cross cut test* 4% dan berdasarkan klasifikasi ISO 2409 bernilai 1, *coin test* berdasarkan panjang goresan 4 cm serta klasifikasi nilai *coin test* berdasarkan standar PT. Sunjaya Coating Perdana sangat bagus, pengembangan tebal 1,06%, dan penyerapan air 2,31%.

Kata kunci : jumlah epoksi terlabur, mahang, gerunggang, jabon, sifat *finishing*

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## **EFFECT OF EPOXY SPREAD ON FINISHING PROPERTIES OF THREE WOODEN BOAT SPECIES**

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### **ABSTRACT**

Indonesia is known as a maritime country with sea transportation. Since a long time ago, the boat was mostly made of wood because of the strong and durable wood choices in Indonesia. However, currently those woods are difficult to obtain, thus requiring the alternative of raw materials for wooden boat elements with fast growing species. Mostly fast growing wood species have so poor quality that an exterior finishing technology (epoxy) is needed to improve its quality. Each wood has different properties and characteristics that requires optimal epoxy spread to improve the quality of wood. Therefore, this study aims to determine the interaction between species variation and epoxy spread to finishing quality of three alternatif woods. This study used a completely randomized design with two factors, ie the type of wood (Mahang, Gerunggang, and Jabon) and the epoxy spread (30#/MSGL, 40#/MSGL, and 50#/MSGL). Epoxy and hardener were prepared with ratio 2 : 1. The quality of wooden boat elements were evaluated by finishing quality parameters such as *cross cut test* based on ISO 2409 and *coin test* based on PT. Sunjaya Coating Perdana and also physical properties such as thickness swelling and water absorption based on British 373. The results of this research showed that the interaction between wood species and epoxy spread was very significant on all the finishing and physical properties. Gerunggang wood with 40#/MSGL epoxy spread gave the most optimal finishing and physical properties which its average percentage of cross cut test was 4% and based on ISO 2409 classification was 1, coin test based on streak length 4 cm and coin test classification based on PT. Sunjaya Coating Perdana was very good, 1,06% thickness swelling, and 2,31% water absorption.

Keyword : epoxy spread, mahang, gerunggang, jabon, finishing properties

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